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ERYTHROCYTIC STUDIES IN IDIOPATHIC ANÆMIA OF PREGNANCY AS A GUIDE TO THE BLOOD PATHOLOGY AND THERAPY

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The term "idiopathic" or pernicious anæmia of pregnancy comprises those cases in whom all other common known causes of secondary anæmia can be excluded, such as malaria, kala-azar, hæmorrhage, syphilis, helminthiasis, etc. In these cases pregnancy is the central causative factor round which this condition goes on evolving and on the termination of which there is a spontaneous tendency to recovery in all but very moribund cases.

There seems to be a great difference of opinion about the exact figures of the erythrocytic size and the colour index of cases of pregnancy anæmia, as apparently conflicting and controversial findings have been obtained by different workers.

Thus Mitra obtained an average colour index of 1·3, Balfour 1·4, and Gupta 1·1 in their cases; Mudaliar and Rao got high colour index in 27 out of 32 cases and low colour index in the rest. They, however, take 0·85 as the normal colour index for comparison. Lucy Wills in criticising the work of Mudaliar and Rao for their failure to obtain positive results with vitamin therapy as suggested by her, expresses a disinclination to accept the low cases of colour index as cases of pregnancy anæmia at all.

There also seems to be a similar confusion with regard to the diameter and size of the red corpuscles because although the great majority of cases are macrocytic, a good number of cases have been found to be microcytic as well.

Kersely and Mitchel in a note on the anæmia of pregnancy describe cases of microcytic anæmia and stress the importance of the iron therapy in these cases.

Witts has described pregnancy anæmia cases as essentially macrocytic and Larachee and Wintrobe have found the mean corpuscular volume increased.

Price Jone's curves showing a considerable shift to the right which indicates a macrocytic type of anæmia, have been worked out by Parvu and Fouiquinu and Hoverson and Shackle.

One of the reasons for these discrepancies is the difference in the results obtained by the different methods.

In another observation one of the authors (Chatterjee, 1938), has put forward the very great difficulties in the accurate measurement of the red cells by the different methods due to the various artificial changes produced in the cells during the drawing of the slides.

Thus different slides gave markedly different results with either of the two usual methods, *viz.*, the halometer of Eves and the camera lucida (Price Jone's curve), although drawn from the identical finger puncture. Many of these differences might be due to the many varying factors such as the amount of pressure, the time taken in drawing the slides, the viscosity of the blood etc. Naturally, therefore, the use of the mean corpuscular volume is advocated for study of the red cell size as the idea given by it is the least fallacious. The average figures obtained by us in normal Indian women are as follows:—

Highest	...	100 c. microns
Lowest	...	71 ,, ,,
Average	...	90 ,, ,,

The average figures of some of the various hæmatological means and indices as obtained by us from 135 normal persons residing in Bengal, are given below:

(a) Mean Corpuscular Volume in c. microns.

Highest	Lowest	Average
100	71	90

(b) Mean Corpuscular Hæmoglobin or the haemoglobin-content of an average red cell in micrograms.

Highest	...	...	...	46
Lowest	...	...	...	29
Average	...	...	...	36

(c) Mean Corpuscular Hæmoglobin Concentration or the mean hæmoglobin concentration per corpuscle.

Highest	...	...	...	50%
Lowest	...	...	...	34%
Average	...	...	...	40%

The indices are:—

(a) Colour Index or the amount of hæmoglobin per cell relative to normal. (Average 1-1·1).

(b) Volume Index or the relation of the average cell to normal. (Average 0·9-1·1).

(c) Saturation Index or the amount of hæmoglobin per unit volume cell relative to normal. (Average 1-1·3).

Application of Mean Corpuscular Data to the Hæmatology of Anæmia of Pregnancy

The present study is based upon observations made on 55 cases of so-called idiopathic anæmia of pregnancy.

The study of the Mean Corpuscular Volume and the Mean Corpuscular Diameter has revealed that there is a distinct correlation between the amount of anæmia and the size of cells. It has been found that one and the same case may pass through the normocytic, microcytic and the macrocytic stage depending on the degree of anæmia. As the number of cells goes on improving the size of cells diminishes and *vice versa*, as will be evident from the cases given in Tables I and II which show two of the typical cases.

First stage of Anæmia—In the earlier stages of anæmia the blood picture is normocytic. We have nine cases in our series in which the initial examination showed the picture to be the above.

The average count of this group was 2·1 millions.

The highest was 3·4 millions and the lowest 0·98 millions with a mean corpuscular volume of 85·0 c. microns and 80·0 respectively.

TABLE I

Showing the changes produced in the number of red cells and their size as well as the indices in a deteriorating case.

Date	R. B. C. per c.mm. in millions.	Mean Corp. Vol. in cubic microns.	Volume Index.	Colour Index.
26-11-35	1·68	53	0·6	0·7
9-1-36	1·02	120	1·3	1·5
14-1-36	1·01	130	1·4	1·6

With the improvement in the clinical picture the number of cells goes on improving and along with it the cell volume also becomes normal. The same will be evident from Table II in which another of our typical cases is depicted.

TABLE II

Showing the changes in the number of red cells and their size and the indices with improvement.

Date	R. B. C. per c.mm. in millions.	Mean Corp. Vol. in cubic microns.	Volume Index.	Colour Index.
18-9	1·09	128·4	1·4	1·7
28-9	1·96	81·6	0·9	0·9
22-10	3·37	88·6	0·9	1·0
25-10	3·20	89	1·0	1·0

It is possible that the size of the cells depends on other factors besides the number alone.

Second stage of Anæmia—The next stage in the progress of anæmia is what may be called the microcytic stage, either normochromic or hypochromic.

We had six cases in this series. As the blood condition improves with treatment there is a reverse transition from this group to the previous group as will be shown by the following table:

TABLE III

Showing improvement of microcytic to a normocytic blood picture.

Case.	Date.	R. B. C. per c.mm. in mills.	Mean Corp. Vol. in cubic microns.	Volume Index.	Colour Index.
XLVI	22-1-36	1·8	50	0·6	1·0
	5-2-36	2·0	80	0·9	1·0

The average count of this group was 2·0 and is somewhat lower than that of the previous series. The highest was 2·7 and the lowest 1·6.

Both the above two groups of cases showed a reticulocytic count higher than normal figures. Consequently this was the stage of bone-marrow regeneration, *i.e.*, the bone-marrow was actively working to enable the blood to keep pace with the decreasing number of red blood cells. It is at this stage that the role of iron therapy comes in. It can definitely prevent the downward drift into the other stages. The question of therapy, however, will be taken up later.

Third stage of Anæmia—If the anæmia is not treated and allowed to go downhill then the next stage sets in, which may be said to be the borderline stage between hæmopoietic failure and hæmopoietic compensation. In this stage the blood picture is found to be normocytic or microcytic and hyperchromic. We had nine cases in this series.

The counts are definitely lower than that of the previous series.

The highest is	2·09 millions
The lowest is	0·80 millions
The average is	1·45 millions

The comparative blood picture of one such case is shown in the next table as well as the downward progress of a similar other case.

TABLE IV.

Showing two cases in the 4th stage of Anæmia.

Case.	Date.	R.B.C. per c.mm. in mills.	Mean Corp. Vol. in cubic microns.	Volume Index.	Colour Index.
VI	26-8-36	1·1	100	1·1	1·3
	31-8-36	1·5	80	0·9	1·0
New series	1-11-35	1·63	94	1·0	1·2
XX	11-11-35	1·08	111	1·2	1·7

If the blood condition is properly diagnosed at this stage the patient gets a fair chance. It is at this stage that the liver therapy is of immense help in the regeneration of bone-marrow which is just showing signs of the beginning of failure.

Fourth stage of Anæmia—But if this condition is allowed to deteriorate then the anæmia develops into a macrocytic and hyperchromic type—the stage of bone-marrow failure.

In this stage the liver therapy as a rule has a tendency to aggravate anæmia, (*vide* Table VIII) just as physical exercise, however, moderate would aggravate the acute heart failure.

In considering this type we can distinguish two distinct groups:

(1) Cases in whom the counts were remarkably low *i.e.*, near about a million or even less with high reticulocyte count. These are the cases resulting from the downward drift of the previously described anæmia. These cases, as already described, are due to the failure of the bone-marrow to manufacture normal sized cells. They were 20 in number in our series. The average count was 0·89 millions.

(2) Counts which are less remarkably low 1·6-2·5 millions (3 cases). There was an initial low reticulocytosis and a low gastric acidity. These cases are possibly due to the lack of the so-called "intrinsic factor" and the improvement with liver therapy is remarkable as will be shown later.

Therapy of Anæmia of Pregnancy in the Different Stages

The justification of the above division of the different types of blood picture would be in the therapeutic indications and the figures are given below.

As has been already pointed out in the early stages the condition starts as normocytic. This may be normo or hypochromic. The next stage in the blood picture may be stated to be microcytic which may be again normo or hypochromic.

It is in these above first and second stages that the role of iron therapy comes in, when it can definitely prevent the downward drift of the condition. This will be evident from the following table.

Table V.

Showing effect of liver therapy anæmia of pregnancy.

Case.	Date.	R. B. C. per c.mm. in millions.	Mean Corp. Vol. in cubic microns.	Volume Index.	Colour Index
III	6-9-35	3·4	85·2	0·9	1·15
	18-9-35	4·02	85·0	0·9	1·1
XXXI	13-11-35	2·9	76·0	0·9	1·15
	25-11-35	3·4	82·4	0·9	1·1

Iron was given to these patients in the form of iron ammonium citrate one gram three times daily The patients showed remarkable improvement and left the hospital cured for all practical purposes.

The next stage or the third stage in the evolution of anæmia is that in which the patients exhibit a normocytic or microcytic blood picture but a high colour index. Of the nine cases of this series 5 cases showed reticulocytes slightly higher than the normal range, 4 cases showed reticulocytes within the normal range and one a very low reticulocyte count.

This stage may be suggested to be the stage between bone-marrow failure and recovery, *i.e.*, when the bone-marrow is just beginning to fail. It is in these cases that the role of liver therapy comes in and may do considerable good if given in proper doses. (Table VI).

Table VI.

Showing effect of liver therapy in the 3rd stage of anæmia.

Case.	Date.	R. B. C. per c.mm. in millions.	Mean Corp. Vol. in cubic microns.	Volume Index.	Colour Index
XLII	5-1-36	1·7	90·0	1·0	1·3
	10-2-36	2·2	65·2	0·8	0·8
XIX	30-10-35	2·1	90	1·0	1·3
	7-11-35	2·7	60	0·6	0·7

The above table indicates a transition from the normocytic hyperchromic type to a microcytic hypochromic type as a result of the increase in the red cell count.

If the anæmia still remains untreated up to the stages mentioned above then macrocytic anæmia sets in. These cases again can be roughly divided into the two following groups:—

(a) When the red blood cell count is near about 2 millions.

(b) When the red blood cell count is near about 1 million.

In the stage (a), liver therapy plays an important part and can greatly improve the condition. This will be evident from our case XIV (*vide* Table VII).

TABLE VII.

Showing improvement with liver therapy

Case.	Date.	R. B. C. per c.mm. in millions.	Mean Corp. Vol. in cubic microns.	Volume Index.	Colour Index
XIV	11-1-35	1·6	111	1·3	1·3
	18-1-35	1·4	100	1·1	1·4
	1-2-36	2·2	76	0·9	0·9

TABLE VIII

Showing improvement with blood transfusion.

Case.	Date.	R.B.C. per c.mm. in mills.	Diameter by halometer short unstained films.	Remarks.
III A.	12-8-36	1·03	8	Liver extract intravenous followed by daily intramuscular injections.
	22-8-36	0·96	8·1	
	26-8-36	0·71	8·6	
	31-8-36	0·93	8·4	Transfusion 10 ozs. of blood.
	26-9-36	1·37	7·8	Followed by liver extract therapy.
	17-10-36	0·64	8·2	
	18-11-36	0·74	—	Transfusion 10 ozs.
	21-11-36	—	—	Confinement.
	30-11-36	0·95	7·6	
	8-12-36	1·3	7·5	

On the other hand the stage (b) indicates a greater disfunction of the bone-marrow approaching impending failure. The liver therapy is not of much use in this stage and might be associated with gradually diminishing red cell count. The only remedy that can avert a fatal termination and can possibly tide over the crisis of confinement is blood transfusion, which improves the blood condition.

The continuation of pregnancy means an increasingly severe prognosis while an artificial induction means an equally great if not greater risk to the mother.

It is at this stage that blood transfusion may produce not only improved blood condition but may be instrumental in bringing about premature labour. If the patient tides over this, which is the case in the majority of instances, she shows rapid recovery when followed up with liver and later on by iron.

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SUMMARY

1. Study of the red cell size and the different indices show that the cases of anæmia of pregnancy can be put under four different stages.

2. One and the same case may pass forward and backward through these stages.

3. In the first stage of the disease the blood picture is normocytic.

4. With deterioration, the anæmia aggravates and becomes microcytic.

5. The third stage may be stated to be the borderline stage between hæmopoietic failure and compensation. The blood picture is microcytic or normocytic but hyperchromic.

6. The fourth stage may be said to be the stage of bone-marrow failure. In this stage the blood picture is macrocytic and hyperchromic.

7. The usefulness of the above classification will be found in the therapeutic indication and the results obtained.

8. Iron therapy is of great help in the first and second stages and can definitely prevent a downward drift of the cases.

9. In the third stage, liver therapy is of similar great help.

10. None of the above substances is of any use in the fourth stage. Blood transfusion may be of some help.

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THE ARTIFICIAL RUPTURE OF MEMBRANES

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According to Jacquemier, the opinion that the membranes are vital to labour goes back to the days of Guilemeau who lived in the latter half of the sixteenth century. Mary Donaly, an English midwife, in 1738 was the first to induce labour by rupturing the membranes and she achieved the delivery of a premature but live child through a contracted pelvis. Much criticism followed this pioneer daring of this English midwife. William Smellie cautioned against the rupture of membranes but stated that "The membranes appear to play no part in labour except to hold in the water necessary for lubrication. Dilatation is effected by the head." Thomas Denam in 1778 was an ardent supporter of the then prevalent hydrostatic wedge theory of cervical dilatation. He made the statement that "The amniotic fluid enclosed in the membranes procures the most gentle and efficacious dilatation of the os uteri". Baudeloque held a gloomy prognosis for dry labour. However, he warned the profession that the dilatation is not immediately and entirely the effect of the hydrostatic bag of waters.

In 1806 William Potts Dewees wrote a thesis on "An essay on the means of lessening pain and facilitating certain cases of difficult parturition." He criticised Denman's theory. He pointed out that if the membranes were a dilating wedge,they must be stronger than the cervix and he compared the ease with which the membranes rupture at the slightest touch to the difficulty of manual dilatation. Again, in the absence of membranes, labour should be almost impossible or very difficult which he found contrary to experience. Dewee's explanation of dilatation is that the cervix begins to loose thickness and breadth as soon as it is operated upon in spite of the circular fibres. The longitudinal fibres contract coincident with the relaxation of the circular fibres and the cervix is gradually retracted over the head.

The controversy over cervical dilatation which thus started as early as the 18th century is still not at an end. Even to-day the two theories are still being maintained and many consider the hydrostatic action of the bag of waters as the most important factor. The opposite school holds that the obliteration of the cervix and dilatation of the external os is brought about by two interacting mechanisms—one consisting of the traction exerted on the fibres of the cervix by the longitudinal fibres of the outer muscular layer of the body of the uterus thus pulling the cervix upward to form a downward extension of the lower uterine segment. Shears states that these longitudinal fibres are inserted into the circular fibres of the internal os and that by the eccentric pull dilatation of the os is gradually effected and the cervix is drawn up over the presenting part—that is the head is not pushed through the cervix but the latter is drawn up over the head.

Williams states that the changes in the cervix are brought about almost entirely by this action of the bag of waters. DeLee, Harper, Eden and Holland, Wrench, Solomon, Bumm, Harris and others all follow the same view. It is generally considered that the bag of waters has important functions in protecting the head of the child from injurious pressure, in ensuring a uniform elastic dilating wedge and in minimising the trauma to the cervix.

When such important functions are attributed to the bag of waters it is only natural to ascribe many disadvantages to any process either natural or artificial which leads to a rupture of the bag of waters before its functions are fulfilled. Natural rupture of membranes before or early in labour is classed as premature and unfavourable. The term "dry labour" is used to indicate such cases. DeLee and Williams apply this term to all cases where the rup-

ture has occurred early in labour or before it. Edgar applies the term only to those cases where the liquor amnii has completely drained away. Many disadvantages are ascribed to this condition—prolonged painful dilatation of the cervix, prolonged labour, increased percentage of operative interference, increased damage to the child, prolapse of the cord, œdema of the cervix, lacerations, infections etc.

These disadvantages can occur when the membranes rupture naturally or artificially. Fitz Gibbon in 1931 presented a series of 30 cases where he induced labour by artificial rupture of membranes. In the majority of cases the indication for induction was to prevent disproportion or to prevent a prolongation of pregnancy beyond term. The duration of pregnancy when labour was induced varied from 36 weeks and 2 days to 40 weeks and 5 days. One infant weighed 4½ lbs. The others were all over 6¼lbs. 2 were over 9 lbs. and 7 were over 8 lbs. in weight. The entire series of cases were comparatively free from morbidity or other causes of anxiety. There were no instances of failures. The primigravida varied from 23 to 38 years. Duration of pregnancy varied from 36 weeks to 40 weeks and 5 days. In this series the average time of onset of labour after rupture of membranes was 11·8 hours, the largest 64 hours. Delivery was completed in an average time of 20·3 hours, the shortest being 3·5 hours, and the longest 69 hours. He found the operation more efficient in primigravidæ. They responded rapidly to the method. He found by comparison that there was no difference in the total duration of labour following spontaneous premature and artificial rupture. The only marked difference was in the average times for onset of labour which was much greater in cases with spontaneous rupture. He comes to the conclusion that induction of labour by puncture of membranes is a reliable method and it does not entail any of its traditional disadvantages. "If labour is induced" writes Fitz-Gibbon "by any method with disproportions and labour does not advance, any subsequent disaster is not due to the loss of liquor amnii; it is the result of labour with an extreme degree of disproportion. This is, I believe, the source of the traditional condemnation and of the belief that early rupture of the membranes retards labour. I am fully convinced from my experience of obstetrics that the bag of waters does not play any part in the dilatation of the cervix; the forewaters are completely cut off by the presenting part from the intrauterine tension and it is the presenting part alone that dilates the external os and cervix."

In spite of his belief in the role of membranes, Williams induced labour by rupture of the membranes and Solomon precedes this with quinine, castor oil and pituitrin. He felt that the method was without danger to mother and child provided the head was engaged.

Guttamacher and Douglas reported from William's clinic a series of 120 cases of induction of labour by this method. In one series they employed in addition, intranasal pituitrin, in one series the rupture was preceded by medicinal induction and the last with rupture alone. In the first two series the latent period (time before onset of labour) was much shorter than in the third series but the pituitary extract had little effect on the latent period. They found that labour was shorter than in normal cases by 73·5% in primiparæ (10·15 against 17·59 hours) and by 116·4% in multiparæ (5·43 against 11·78 hours). The latent period was less than 4 hours in 102 cases and over 4 in 18. There was no relationship between the amount of fluid lost, term of pregnancy, size of the child and length of the latent period. If the cervix was partially dilated the latent period was shortened but not the duration of labour. On the other hand if the cervix was long and undilated both the latent period and labour were prolonged. There was a diminution in the maternal morbidity and no maternal mortality. Fœtal mortality was a trifle higher, 5·88% against 5·16%.

To test whether the bag of waters had really the important functions attributed to it, A. G. King ruptured the membranes deliberately in 200 cases and compared the results with 100 cases of spontaneous rupture and 200 cases of normal labour. He ruptured the membranes early in labour in women with normal vertex presentation and found that labour was shortened by about 1/3. The percentage of cases subjected to interference was less (8·6% as compared to 12·5% in a normal series of 200 cases). The maternal morbidity was lower (17·6% against 28%). Fœtal mortality was the same. At a later date he reported an investigation of 1001 uncomplicated full term pregnancies occurring in 1625 cases. 40% enjoyed intact membranes and were used as controls. 31% of cases ruptured the membranes spontaneously while 29% were artificially ruptured when

there was a dilatation of 4 to 7 cms. It was found that there was a large percentage of prolonged labour in the control group. Forceps incidence was 16·5%, 10·6 and 12·6% respectively. The morbidity was the same. Fœtal mortality was unaffected.

Last year Plass reported a series of cases where the membranes were artificially ruptured as a convenience procedure in an attempt to reduce the period of hospitalisation for waiting patients. Only two contra-indications were recognised, (1) contracted pelvis and (2) malpresentation. Excepting 7, all the cases were preceded by medicinal induction. 681 cases were studied. 195 were primi- and 486 were multiparas. There were 672 cephalic presentations and 9 were breech. 387 were L. O. A. and 288 R. O. A. The presenting part was floating in 335 cases. It was fixed above the spines in 300 cases. In only 46 cases was the head actually engaged. The cervix was completely effaced in only 6. It was thinned to some extent in 42 while it was uneffaced in 633. The cervical canal admitted one finger in 468 cases and 2 fingers in 181 cases, while in 32 it was closed. The pregnancy was normal in 592 cases while in 84 there was some complication asking for induction. The period from the rupture of membranes to the appearance of definite labour pains was less than one hour in 378 patients. 215 responded almost immediately. The latent period was longer than 24 hours in 32 cases. The largest interval was 45 hours. Latent periods less than one hour were common in primi. Labour was rapid (under six hours) in 56 primi and 292 multi and lasted more than 30 hours in 8 primi. Spontaneous delivery occurred in 94·3%. There was no mortality. Morbidity was 1·1%. 2 out of 681 children died. He comes to the conclusion that the rupture of the membranes is an effective and harmless method. The longer the latent period the greater the chances of infection and fœtal mortality.

Induction of labour for disproportion is rarely done at the Government Hospital for Women and Children. In a series of 100 cases which is now being presented, the indications for induction were non-convulsive toxæmia of pregnancy and eclampsia. Out of these 100 cases, 33 were cases of pre-eclampsia, 3 of chronic nephritis complicating pregnancy and 64 were cases of eclampsia. The eclampsia cases will be discussed separately. The duration of pregnancy ranged from 28 weeks to full term. There were 4 cases at full term, 10 were in the 36th week, 12 in the 32nd week, 6 in the 30th week and 4 were in the 28th week. The age of the patients ranged between 18 and 38 years. 8 were primiparæ and 28 multiparæ. In all cases the os was closed and in no case was the cervix thinned out or taken up. Excepting two cases of breech, the rest were all cephalic presentations. In no case was the presenting part fixed or engaged.

The latent period *i.e.* time of onset of labour after rupture of membranes, varied with the different individuals. The average duration for all cases was 12·3 hours. The shortest was six hours and the longest 32 hours. The average time taken for delivery from the time of onset of pains was for all cases 6·5 hours. The shortest was 15 minutes and the longest 9 hours. On taking the primigravidæ and the multiparæ separately it is found that the latent period in the former is much shorter than in the latter, 11·6 hours as against 16·1 hours and the average duration of labour was also shorter in the primiparæ 4·2 hours against 8·8 hours in the multiparæ. This argues in favour of this procedure being more efficient in the primiparæ. The weights of the babies ranged from $2\frac{3}{4}$ lbs. to $6\frac{3}{4}$ lbs. 3 babies were stillborn, all of them weighing 3 lbs. and less. The rest were all born alive. 5 died during neonatal period, cause of death being prematurity (weighing below 4 lbs.). 6 cases were delivered by forceps. The main indication was maternal toxæmia. In no case was there any complication, like prolapse cord, painful and prolonged labour or cervical lacerations met with. Three cases were morbid. One was a case of coli infection of the urinary tract and the other two developed mild grades of uterine sepsis. There was no maternal mortality. Neither the term of pregnancy, nor the weight of the child was found to have an effect on the latent period.

64 cases of eclampsia were treated with artificial rupture of membranes along with the usual sedative treatment. 46 of them were primi and 18 multiparæ. The period of pregnancy ranged from 24 weeks to full term. 28 cases were at full term, 10 in the 36th week and the rest ranged between 24 and 32 weeks. 17 of these patients were not in labour while the remaining were in different stages. In 25 cases the os was 1/5 dilated, 2/5 in 12 cases,

3/5 in 8 cases and fully dilated in 2 cases. In all, the babies presented by the vertex. Only in 4 was the head fixed. In those cases where the os was tightly closed the average duration of the latent period was 5·6 hours and the average duration of labour 3·3 hours. The delivery was completed in an average time of 5 hours in those with 1/5 dilatation, in 4 hours in those with 2/5 and 2·8 hours in those with 3/5 dilatation. In those with full dilatation delivery was completed in 20 minutes. 18 of these cases were delivered by outlet forceps. The indication was chiefly maternal. In no case was there any complication like prolapse of the cord, non-dilatation of cervix or cervical lacerations noticeable. 8 babies were born still. 3 of them had no fœtal heart on admission. The remaining 5 were premature. Of the 56 live birth, 8 died during the neonatal period, the cause of death being prematurity, convulsions and diarrhœa. 3 mothers died in the whole group. Neither the maternal nor the fœtal deaths could be attributed to the artificial rupture. 7 cases were morbid, 2 with urinary infection and 5 with uterine sepsis.

It is not proposed to discuss here the role of artificial rupture of membranes in eclampsia. It may, however, be mentioned that since the artificial rupture of membranes was undertaken as a routine in all cases of the severe grades of eclampsia, the maternal mortality has been considerably reduced. (From 16·5% in a series of 371 cases to 8·2% in this series of 124 cases).

King and others have reported excellent results with deliberate rupture of membranes early in labour. In this hospital we have done a few cases (25). The number is too small to arrive at a definite conclusion. But it may be mentioned that labour was definitely shortened in those cases and no complications ever occurred attributable to this procedure.

A striking feature of this series is the remarkably short latent period in those cases with eclampsia, 5 to 6 hours, against 12·6 hours and the short duration of labour in the same 3·8 hours against 6·5 hours in the other series. Another point has been noticed. In 8 of these cases the membranes were punctured high up above the presenting part and it was in these cases that the longest latent periods were noticed —18-32 hours.

Conclusions

(1) Artificial rupture of membranes is one of the oldest methods of inducing labour.

(2) It is very effective and in the series reported there has been no failures.

(3) Usually after rupture of membranes there is a period during which the woman has no pains. This latent period varies. The average duration was 12·3 hours.

(4) The latent period is shorter in the primi than in the multi—11·6 against 16·1 hours.

(5) The average duration of labour was 6·5 hours. In the primiparæ it was 4·2 hours as against 8·8 hours in the multiparæ.

(6) The method is therefore more efficient in the primiparæ.

(7) Especially in eclampsia the latent period and duration of labour are much shortened.

(8) High rupture of the membranes tends to prolong the latent period. The duration of the labour is unaffected. It is therefore desirable that the membranes be punctured in front of the presenting part.

(9) There is a high incidence of operative delivery in this series. The indication was chiefly maternal toxæmia.

(10) The fœtal mortality is also high. But the cause is the maternal toxæmia and it cannot be attributed to the procedure.

(11) The disadvantages attributed to the method —prolapse cord, prolonged labour, cervical lacerations etc., were not met with in any of these cases.

(12) Rupture of membranes hastens the labour.

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TREATMENT OF HIGH BLOOD PRESSURE

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Before the subject of actual treatment is taken up a few general remarks may not be out of place. Causes of raised blood pressure are many and the treatment of every case cannot be exactly the same though the general principles would apply well to all of them. It has to be remembered that in a good number of cases the raised blood pressure is not secondary to diseases of the kidney and belongs to the so-called primary group. This group has been variously named by different authors; thus the terms hyperpiesia and essential hypertension refer to this group. The real underlying cause of most of the cases of this group is not well understood at present, though it is now believed that the cause is probably to be found in a pressure substance which may be infective, metabolic or endocrinic in origin. The cause being not known there can be nothing of the nature of a specific or radical treatment and the treatment of necessity has to be directed towards general lines. An important fact to be remembered is that whatever may be the cause of raised blood pressure it has a profound influence on the working of the different organs of the body. Thus the kidney is accustomed to working at a high pressure gradient. So it has been said that " patients with hypepiesia of some standing present an optimum blood pressure at which the organs as a whole work most satisfactorily and any attempt to lower this drastically is a real disservice to the patient" (John Hay, 1936). Besides, there is no doubt that in many cases the raised blood pressure is a manifestation of nature's defensive reaction against some known or it may be as yet unknown cause. This conception is not a new one and we find in the writings of Oliver the statement, 'high arterial pressure is sometimes a necessary evil' (Halls Dally, 1934). So in a subject suffering from high blood pressure, if the pressure is brought down suddenly without due regard for the functioning of the important organs of the body the result is a most unhappy one.

Another important fact that one should remember in this connection is that every extra pound of flesh beyond the optimum weight for a given hyperpietic means added load to the already embarrassed heart. Obesity which is only too often encountered in subjects of high blood pressure should therefore receive as much attention of the physician as any other recognisable underlying causative factor.

In a case of hypertension in the early stages the blood pressure is often liable and more readily amenable to treatment and so in this condition as in many other diseases an early diagnosis is of paramount importance for the successful treatment.

General Management

(a) *Desirability of disclosing the sphygmomanometric readings to the patient*—When raised blood pressure is first detected, it is disputed whether the patient should be told about it. I think it all depends upon the temperament of the patient. If the patient is highly nervous it is not desirable to disclose to the patient at once that he has been suffering from high blood pressure but the physician has his responsibilities with regard to his patient; so in such cases the diagnosis should be disclosed to some responsible relative of the patient who may inform the patient about the high blood pressure gradually and cautiously.

In other cases the patient himself may be informed about the existence of high blood pressure and at the same time he should be assured that this should not frighten him. It should also be explained to him that his co-operation in the treatment with regard to following out details as much as practicable is of vital importance.

In this connection I may cite instances of 2 of my recent cases. The first, a demonstrator of the Presidency College consulted me complaining of various nervous and digestive disorders. When I brought the sphygmomanometer for taking his blood pressure the patient suddenly jumped out of the examination table being extremely frightened and said out, "No, doctor, not that one. If you would now tell me that I am suffering from blood pressure I would simply drop down dead here." I assured him then with all the arguments at my command and told him that for all probability he was not suffering from high blood pressure and that only to complete the bed-side examination I wanted to take his blood pressure. Fortunately he was not suffering from high blood pressure but in case such a person is found to have raised blood pressure it would not certainly be advisable to tell him that then and there. The other, a lawyer of Calcutta consulted me for his high blood pressure informing me that he was compelled to change his physician twice in 3 months. He had to change his first physician when he discovered that he was injecting distilled water. This doctor had given out to the patient that he was suffering from some functional heart disease and that the injections would do him good but the name of the injection was kept a secret to the patient. The other physician had told him the correct diagnosis but the very day the patient discovered that the physician was not telling him the correct manometric reading he left him. So the patient requested me to give out to him the exact readings always. He has so far consulted me five times and I have always given him the correct readings. The patient has always been keen about the readings and has always kept a record of these. These two cases illustrate how the temperaments of patients differ.

(b) *Regulation of mode of living with regard to rest and exercise*—Rest ordinarily means physical rest. Rest is of considerable importance in the treatment of high blood pressure and the nature and amount of rest necessary for a particular case has to be decided on the merits of the case. Relative rest is a necessity for practically every case but if the pressure is very high and produces symptoms and if there is reason to believe that high pressure has lasted for a pretty long time without any real treatment and if there are evidences of myocardial weakness a preliminary period of rest in bed is desirable. If, however, rest in bed is recommended indiscriminately for every case, one would recognise too soon that many subjects who could have led an useful and relatively active life for at least some more time is converted to neurotic invalidism. What is necessary for many a case is that he should enjoin greater rest in the intervals of his activities.

Mental rest, that is freedom from worries and anxieties is even more important than physical rest. To achieve mental rest detailed directions should be given taking into consideration the nature of work and the financial condition of the patient, so that he might adjust his activities and minimise the mental strain.

Some amount of exercise is helpful for many cases. The beneficial influence of moderate exercise in some patients is illustrated by a case reported by Gager (1930). A woman physician (aged 50) at the age of 46 had 150 mm. of Hg. systolic pressure, at 48 she had 210/110 and the pressure had since reached 230/130. 'Rest in bed had only a transient effect on the pressure and was decidedly boring to this lady of active habits. Deciding to give up bed and resume social activities she discovered that after relaxation of her dancing, her pressure fell to 150, lower than during the period of complete physical inactivity.'

(c) *Diet*—So far as diet is concerned excess of meat and fish is to be avoided. The meals should be small and dry. There is no necessity of undue restriction of fluid; restriction of fluid, in fact, may be harmful in some cases. Whenever possible fluids should be taken in between and not with meals. Salt need not be unduly restricted for most cases of essential hypertension.

(d) *Removal of septic foci*—Septic foci when discovered should be removed as these might have a possible bearing on the ætiology of the raised blood pressure in certain cases.

(e) *Care of bowels*—Constipation influences the blood pressure of hypertensive subjects possibly in 2 ways: firstly by a possible toxic absorption and secondly by acting on the nervous system reflexly. Bowels should therefore be kept regularly moving. Even if the patients think that the bowels are acting satisfactorily an opening dose of saline purgative once

a week or oftener has a decided beneficial action on the blood pressure.

In some cases periodic enemata and colonic wash out are desirable. Those who are habitually constipated should take some laxative, preferably a lubricant at bed time daily and a hydragogue puragative once or twice a week.

Drug Therapy

(*a*) *Iodine and iodides*—Iodides are being used for high blood pressure for a long time indeed and have been used possibly much more commonly than any other drug. In the syphilitic group it is easy to understand its rationality but in the nonsyphilitic it is difficult to realise how it acts and, in fact, whether it has got any action at all or not on the blood pressure. Until recently potassium iodide was very commonly used. At present, however, there are many preparations of iodine in the market such as iobramag, iodocitrane, colloiode drops and the like which are reputed not to produce iodism and which are often being used in the place of potassium iodide.

(*b*) *Sedatives*—Sedative drugs lower the receptivity of the nervous system and are quite helpful in this disease as they allay anxiety and relieve many of the nervous symptoms such as insomnia, headache, pain in the nape of the neck etc. Even when the blood pressure it not lowered by sedatives, the symptoms are relieved; sodium bromide, ammonium bromide or Peacock's bromide may be given. Barbiturates in some from may also be conveniently used. I have obtained satisfactory results with Theominal (which contains theobromine and luminal) in many of my patients.

(*d*) *Vasodilators*—The nitrite group: All the members of this group have the property of dilating blood vessels and are potent agents for lowering blood pressure but their action is temporary. For reasons already stated indiscriminate use of nitrites is to be strongly deprecated. As a rule, in mild and early cases these drugs should not be used and they should be restricted for cases of some standing in which the blood pressure is very high. Their greatest usefulness lies in averting attacks when one is threatening due to sudden rise of pressure from any cause above the already existing levels. Amyl nitrite (m iii) and glyceryl trinitrate (gr. 1/100) which cause rapid but short lasting lowering of pressure may be used for such cases. Sodium nitrite (gr. $\frac{1}{2}$), Erythrol nitrate (gr. $\frac{1}{4}$) or mannitol nitrate (gr. $\frac{1}{4}$) may be used for other cases where more lasting action is desired. The action of mannitol nitrate lasts longer than most of the other members of the group. Other drugs: Veratrone may be used to reduce the blood pressure in eclampsia. The action of mistletoe is similar to that of nitrites. Preparations are now available in which various vasodilators or vasoregulators have been combined with sedatives. Jocapral (which contains prominal, theobromine and iodocalcium triethanolamine) and Agatheosan (which contains phenylethyl barbituric acid, theobromine and nitroglycerine belong to this group and may be tried in cases of very high blood pressure.

Organotherapy

Various organic extracts are reputed to possess general or selective vasodilator action. They have been frequently used in the treatment of high blood pressure sometimes with benefit. Padutin is a pancreatic extract of complicated structure and may be given to cases of high blood pressure showing evidences of angiospasm.

Lacarnol is another organic tissue extract and its indications are somewhat similar to that of padutin. Thyroid extract may be used with advantage in obese hypertensive subjects. It must not, however, be used for cases in which there may be the slightest suspicion of there being a thyrotoxic element in the causation of the raised blood pressure. Insulin, liver extract, testicular and ovarian extracts belong to this group and have been recommended by various workers but I have no personal experience with these drugs.

Preparations like hypotensyl (which contains mistletoe, liver and pancreas extracts), detensyl (which contains mistletoe, extracts of liver, pancreas and lungs) belong to this group.

Treatment of Symptoms and Complications

For the ordinary symptoms of the disease what has already been described would be sufficient. In some cases, however, some of the symptoms such as headache, precordial pain or discomfort seem to be refractory to ordinary treatment and in such cases

these symptoms should receive special attention. Intractable headache is often relieved by application of leeches to the temple and similarly precordial pain by application of leeches to the precordium. Lacarnol and euphyllin are often successful in relieving intractable precordial pain.

Amongst complications, important are heart failure, cerebral vascular accidents and renal failure often described as failure of the pump, failure of the tubing and failure of the filter respectively. Heart failure and cerebral hæmorrhage are much more commonly encountered than uræmia in cases of essential hypertension. Other important complications are acute œdema of the lungs and hypertensive encephalopathy. For hypertensive attacks, measures for lowering the blood pressure should be adapted and drugs which have the reputation of relieving angiospasm may be tried.

If these fail to relieve the symptoms, lumbar puncture should be tried. For heart failure, acute œdema of lungs, apoplexy and uræmia, their appropriate treatment should be given. It may be mentioned in passing that in many cases of cardiac asthma occurring as a complication of hypertensive heart disease, morphine and its derivatives often act as a charm.

Miscellaneous Therapeutic Measures

Application of leeches has already been referred to. Sometimes venesection may prove to be of real value for relieving the symptoms of refractory cases for it gives direct relief to an embarrassed circulation by withdrawal of fluid; massage, diathermy ultraviolet rays, X'rays and various operative procedures are being tried in recent years for essential hypertension (Halls Dally, 1934; Fishberg, 1930). These have more academic than practical utility and as I have no personal experience with these measures I would not like to discuss their value. It may, however, be pointed out that the multiplicity of therapeutic measures that have been suggested and are being tried in recent years clearly indicate the unsatisfactory state of affairs still existing regarding the treatment of high blood pressure.

Analysis of Cases and Case Notes

In the course of last one year (20-5-37 to 20-5-38) amongst my private patients there were 23 cases of high blood pressure. The age of the patients varied from 21 to 65.

Only 2 were females and the rest were males. In 9 cases the cause of raised blood pressure was chronic nephritis and the remaining cases belonged to the non-nephritic group. In addition to giving general directions with regard to physical and mental rest, diet and care of the bowels, as a rule, I tried first iodides, bromides and sedatives in some form or other. If these failed to relieve the symptoms I tried vasodilators and other measures. I have tried to follow up all the 23 cases referred to above but I have at present no knowledge of 7 cases due to lack of co-operation on the part of the patients. To my knowledge only one case has died in the course of the year. This was a case of a youngman of 21 suffering from nephritic hypertension. At the time of observation his blood pressure was 230/150. He preferred hospital treatment and died of heart failure at the Carmichael Medical College Hospitals. I have got up-to-date informations regarding the remaining 15 cases. In 2 of these the result of treatment has not been at all satisfactory. Both of these cases have got nephritic hypertension. In 5 cases though the blood pressure readings have not been much influenced, the symptoms have been relieved to some extent. In the remaining 8 cases the blood pressure readings and symptoms have both shown definite improvement. To speak in general terms, the result of treatment has not been at all satisfactory in the nephritic group and the best results have been obtained with purgatives and sedatives and not with vasodilators. In the above analysis of cases I have not included the hospital cases observed by me during the period as I could not follow them up over any length of time. Brief notes of only 3 of the other cases are given below:

Case No. 1.—Mr. K. K. S. Hindu male of 25, a sixth year medical student consulted me on 30th August, 1937 complaining of thickening of arteries and visible pulsation of the brachials, the radials and other superficial arteries. He had no palpitation, dyspnœa, precordial pain, headache or any other symptom. Had he not been a medical student, as there were no subjective symptoms, he would not have sought medical advice. Family history of high blood pressure or arteriosclerosis—negative. No past history of nephritis. On examination all the superficial arteries were found to be grossly thickened but not particularly tortuous and these were pulsating visibly. Aortic second sound slightly accentuated. Blood pressure 155/105. Fundus oculi—normal. Urine—Sp. gr. 1015. No abnormality detected. Teeth and

tonsils healthy. By way of treatment he was given directions regarding his diet and he was advised saline purgative once a week. Theominal one tablet twice daily and iobramag one tablet three times a day. He carried on with this treatment for 4 months stopping theominal and iobramag from time to time. At the end of this period his blood pressure became 145/95. There being no symptoms he stopped all medicines at this stage. His present blood pressure is 150/95 without any symptoms as before and the arterial condition remaining same. The interest of this case lies in arteriosclerosis and high blood pressure occurring at an early age without any apparent family history and in treatment having but little effect on the blood pressure reading.

Case 2.—Mr. H. M. M. Hindu male of 62, came under my treatment on 15th January, 1938, complaining of a bad type of headache, palpitation, intolerance for loud noises, constipation, flatulence and a sense of throbbing of the whole body. He was afraid of even getting out of his bed. That he had raised blood pressure was first detected 6 months previous to this. On examination—an obese old man with thickened arteries. Blood pressure 210/120. Heart enlarged (apex-beat in the sixth left intercostal space in the anterior axillary line). Fundus oculi—sclerosis of retinal arteries but no exudate or hæmorrhage. Urine—Sp. gr. 1012, trace of albumen but no casts. Biochemical examination of blood not done. He was advised saline purgative 2 or 3 times a week. In addition he had a carminative mixture, theominal one tablet twice daily and Peacock's bromide half a drachm three times a day. He had rapid relief from all his symptoms and the blood pressure came down to 190/110 in about a fortnights' time. The effect was not however lasting and in a month's time his blood pressure went up to the original level with reappearance of headache and palpitation. At this stage some modification of the treatment was made and Padutin (10 minims three times a day) was added. This however had no effect. Then Agatheosan was prescribed—one tablet three times a day. In two weeks' time the blood pressure came down to 170/105 but he had a new complaint in the form of extreme weakness. As it was thought that the rapid and marked lowering of the blood pressure might be responsible for the feeling of weakness Agatheosan was stopped for a week. The blood pressure rose to 195/115 and the weakness lesened. Thereafter Agatheosan was again ordered—one tablet on alternate days. The blood pressure then became 180/110. The patient was however still getting palpitation. 4 leeches were then applied over the precordium after which the palpitation disappeared. The blood pressure of the patient is now maintaining at 180-185/110. He now gets occasional headache and has no other complaints. He is walking about short distances but is not fit for any active work yet.

Case No. 3.—Mr. S. C. G. Hindu male, aged 32, consulted me on 28th May, 1937 complaining of insomnia, headache, occasional throbbing sensation within the head and peculiar attacks of one year's duration. The attacks occurred at varying intervals and usually followed physical or mental strain. The attacks, as described by the patient, were characterised by flashes of light before the eyes, giddiness and severe headache soon to be followed by a state of confusion compelling the patient to take to bed. Only on one occasion the patient lost consciousness. The duration of the attacks varied from a few minutes to several hours. He never had any aura. Vomiting, convulsion or tongue biting never occurred. He sought medical advice at the time of the very first attack and he was told by his medical attendant that he was suffering from high blood pressure and that the pressure at that time was 175/115. Since that time he had taken various medicines including nitrites but without any appreciable benefit. On examination—he was an obese young man of short stature. Height—5 ft. 2 inches. weight—11 stone 2 pounds (normal for the height—8 st. 7 lbs.). Blood pressure 160/110. No significant abnormality in other systems. There was no history of past nephritis. Urine—Sp. gr. 1018. No albumen or casts. I thought that his attacks were due to temporary rises in blood pressure above the already existing high levels and were of the nature of hypertensive attacks. I prescribed for him a low caloric diet, a day of fast once in the week, walking a distance of 2 miles every morning, Agarol every night and a saline purgative once a week. In addition he had Padutin, Theominal and potassium iodide. There was distinct improvement in his symptoms in about a fortnights' time. He carried on with this treatment for 4 months stopping Theominal from time to time and using Peacock's bromide instead at those times. At the end of this period his weight came down to 10 st. 3 lbs. and his blood pressure was 135/95, he had no symptoms and there had been no attacks.

At this stage all the medicines were stopped one after another and he was asked to carry on with the general directions with regard to diet and care of bowels and was asked to report from time to time. Now full one year has passed, his blood pressure is maintaining at 135/95 and he has been keeping free from symptoms having had no attacks during this time.

In conclusion, I would like to emphasise that while treating a case of high blood pressure, the aim of the physician should be to treat the patient as a whole and not his blood pressure alone.

Read at a Clinical Meeting of the Calcutta Branch of the Indian Medical Association on 16th June, 1938.

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THE TUBERCULOSIS PROBLEM IN INDIA

The introduction of large-scale industries and rapid transport facilities in a chiefly rural and agricultural country has always led to an increase in the incidence of tuberculosis. Industrial conditions very often lead to a strenuous life, overcrowding, insanitary environment and movements of the population —factors which favour easy dissemination of infection. Many of the European countries went through this experience 200 years ago when steam and electricity were first harnessed to the service of man. But the initial rise of disease and mortality is followed, after some decades, by a gradual decline in their incidence in proportion to the decrease of poverty and improvement of hygienic standard of living and of education.

India seems to be now suffering from the early European phase and hence the disease and mortality rates show an increasing trend, so much so, that the Public Health Commissioner with the Government of India thinks that tuberculosis is now the most important public health problem in India, probably only next to malaria and that serious and sustained efforts should be made to check its spread throughout the country before it assumes extensive proportions. The decline of the peak of mortality in England began as far back as 1830 and by now there has been a decline in incidence by nearly 75%. It is difficult to prophesy with exactitude when the decline is expected in India, as there are so many complex economic, social and public health factors which are concerned in it, but it will certainly take some decades to achieve this.

Approximately 10-20% of the total deaths in towns is believed to be due to tuberculosis. The highest incidence is found in industrial towns, where the mortality is often 4-5 times as high as in some of the English towns of the same size and denomination. The death-rate in rural areas is 1/3-1/2 of that in towns. The migration of rural labour into the endemic, urban and industrial areas is causing great anxiety to sanatorians all over the country. When these workers fall ill, they go back to their village homes and thus carry the disease into rural areas.

It is estimated that the annual mortality from tuberculosis in India is in the neighbourhood of a million, as 9 persons are found to suffer from the disease for each case of death. The number of persons thought to be suffering from some form of tuberculosis is in the neighbourhood of 10 millions, the highest incidence being between 20 to 30 years, *i.e.*, at the most productive period of life. As a cause of infantile disease and mortality, it has been shown to play an important role. The death-rate is much more in infected households than among the average population. It has been estimated that there are about 5 million cases of consumption in India and that there are at least 1 million persons crippled from bone and joint tuberculosis. 30% of the consumptives are thought to be constantly scattering the germs of tuberculosis through coughing, spitting, sneezing etc. in various places inside and outside the house.

The economic loss entailed by death and invalidism of such a large number of people in the

prime of life is enormous. In England, the loss to the community through each tuberculous person is estimated to be £150/- a year. The annual income per capita in India is much less, but still the proportionate loss to the community, if added together, would amount to a colossal figure.

The prevention of tuberculosis is, therefore, a matter of first-rate national importance in which not only the State but every section of the population ought to co-operate to the fullest extent. In any scheme of prevention, we have to think of two things: (1) to create a healthy environment whereby the chances of getting the disease are minimised and (2) to take care of those who are already infected and are likely to infect others.

The creation of a healthy environment requires proper education, the improvement of economic status and the launching of extensive housing schemes by the State and local bodies. As regards the second requirement, the State has got to take an even more active share. Early diagnosis, treatment and isolation of the infective cases form the costliest part of the scheme.

Extensive research and investigation in many countries have shown that the most successful result in rehabilitation and prevention have been obtained from a tripartite attack, in which the component parts are interlinked as follows:—

1. Education, early detection, case finding and prevention of infection through what is known as the Dispensary or Clinic System.
2. Taking care of those who are more seriously ill and isolating cases who are sources of contagion to the community in special hospitals and sanatoria.
3. After-care of imperfectly recovered, substandard persons aimed at restoring their working capacity by teaching and offering them suitable wage-earning vocations.

The first is often known as the Foundation Scheme, the second as the Intermediate Scheme and the third as the Final Scheme. But there is no hard and fast line between them. In fact, the moment we begin to work in an area, we are at once faced with the need for the other two schemes. But it has been found most convenient for practical purposes to begin with the Foundation Scheme.

The need for early detection and treatment is very important as early disease being more amenable to treatment is economical to the community in the long run. Unfortunately, very few people are diagnosed at a comparatively early stage in this country at the present moment (only 15-20%).

It has been estimated by workers in this country that 15-20% of the cases are suitable for being taken care of at the clinics, that 60% of the cases require hospitalisation and 20% are found suitable for care colonies or convalescent homes. Approximately, 20% of the children reared in tuberculous environment ought to be taken care of in open-air institutions called "Preventoria". In addition to this, patients crippled with bone and joint tuberculosis ought to be taken care of in special hospitals.

Civilised countries aim at providing 1 bed for each case of death. On this basis India should have one million beds for the tuberculous but there are actually 2,700 beds at the present moment. The position with regard to clinics or dispensaries is no brighter. In place of the required number of 3,700 clinics in India, there are only 40 at the present moment.

It will be building a Utopia if we want to isolate over a million infective cases in India in hospitals and sanatoria. But we must begin somewhere. It is, therefore, best to begin with the establishment of clinics in suitable areas and to educate the people in prevention. H. E. the Marchioness of Linlithgow's Appeal for the tuberculosis cause is a timely one which should be taken advantage of in the autonomous provinces and States. Should the funds fall short of the amount required to meet the situation, we hope the provincial governments would supplement them and pursue a definite antituberculosis policy until success is achieved.

CURRENT MEDICAL LITERATURE

MEDICINE

Bronchiectasis

Watson and Kibler (*Journal of American Medical Association*, July 30, 1938, page 394) after careful study for many years of cases of bronchiectasis in its different stages and from different points of view observe that the great majority of the patients suffering from bronchiectasis have abnormal percentage of eosinophiles in their sputum or clinical manifestations of allergy. They further note that basal allergic bronchitis can present all the clinical features of advanced bronchiectasis except bronchial dilatation as shown by roentgenograms made with iodized oil and that if this basal allergic bronchitis is recognised early and treated by desensitization, eliminative diet and avoidance of allergens in the environment bronchiectasis will not occur and that even if it occurs it is still remediable in the early stage with the above method of treatment.

Complications Following The Use Of Ergotamine Tartrate: (Their Relation To The Treatment Of Migraine)

Storch (*Journal of American Medical Association*, July 23, 1938, page 293) observes that ergotamine tartrate which has been more increasingly used for the last five years in migraine produces certain ill-effects and reports 42 cases from literature substantiating the statement made but these ill-effects were found in the majority of cases because of overdose, pre-existing sepsis or obliterative vascular disease. For migraine headache the drug is to be given early so that the amount necessary to produce relief is greatly decreased. Ergotamine tartrate should not be used in septic states specially when associated with intravascular foci and obliterative vascular disease specially when coronary and it should be used with caution in presence of marked arteriosclerosis, hepatic and renal disease, vitamin C deficiency and hypersensitivity to the drug. For intravenous use the maximum single dose is 0·5 mg., not more than one single injection is to be given in 24 hours and not more than two such injections in one week. For subcutaneous and intramuscular use the dose is 0·5 mg. and rarely two injections are necessary in 24 hours. For an average patient the oral dose is from 4 to 5 mg. (4 to 5 tablets) taken at once and followed by 2 mg. (two tablets) an hour, if necessary until a total dose of 11 mg. is used.

Heat Stroke

Ferris and associates (*Journal of Clinical Investigation*, May, 1938, page 249) in reporting on the investigation of 44 patients with heat stroke, observe that cardiac failure or peripheral circulatory collapse was not evident in the majority of cases, that the blood sodium was not significantly altered, that there was a moderate acidosis and hæmoconcentration, that symptoms of heat stroke were produced by high body temperature, that old age, degenerative diseases, alcohol were contributing factors and sudden stoppage of sweat precipitated the stroke, that loss of chlorides, dehydration and circulatory failure were not responsible for the sudden cessation of sweat secretion, that measures to lower the body temperature, *viz.*, ice-water tubing with massage was the most effective treatment for such conditions.

The Hypotensive Properties Of Allium Sativa

Podolsky (*Illinois Medical Journal*, August, 1938, page 176) in reporting on the hypotensive action of allimin, an essence of garlic and parsley in tablet form, observes that in a series of 25 patients with hypertension allimin was given two tablets thrice daily after meals for three day periods skipping the fourth day and this being continued for 2 weeks, with definite and gradual lowering of both systolic and diastolic pressures with considerable improvement of subjective symptoms and without producing any damaging change in the kidney or heart.

Tryptophan Test In Tuberculous Meningitis

Guglielmin (*Tuberculosi*, April, 1938, page 127, Ref. Journal of American Medical Association, page 364) writes that the tryptophan test of the cerebrospinal fluid is helpful in differentiating tuberculous meningitis from other types of meningitis and diseases of the brain. The test is as follows:—In a test tube mix 3 c.c. of C. S. fluid, 15 c.c. of concentrated hydrochloric acid and 2 to 3 drops of a 2% solution of formaldehyde for 5 minutes. A few drops of 0·06% solution of sodium nitrate is put over the mixture. A violet ring at the point of contact between the layers within two to three minutes indicates the presence of tryptophan in the C. S. fluid which shows the presence of tuberculous meningitis. The test is simple and reliable.

A Simple Test For Determining The Presence Of Gastro-Intestinal Tract Lesions

Woldman (*American Journal of Digestive Diseases*, June, 1938, page 221) describes a simple test by which an organic lesion of the gastrointestinal tract can be determined. It depends on the absorption from the broken mucous membrane of phenolphthalein and its detection in the urine. The procedure is as follows: The patient drinks in the morning while fasting 10 c.c. of 1% solution of phenolphthalein in alcohol, diluted to 30 c.c. by addition of water (he is allowed nothing per mouth for 1 hour after it). Specimen of urine collected 2, 4 and even 6 hours after should be promptly examined for detection of phenolphthalein by addition of 10% sodium hydroxide. If the test is positive for free phenolphthalein the presence of a break in the mucous membrane of the gastrointestinal tract caused by an ulcer or cancer is indicated, if negative it indicates that the mucous membrane is intact. The test is simple, and is reliable, the reliability depending on two things, *viz.*, (1) the small quantity of phenolphthalein used and (2) prompt examination of the urine specimens. In a series of 112 cases the possible error has been less than 3% both for positive and negative findings. Moreover, the test is particularly useful in cases where x-ray evidence is of doubtful authenticity and in differentiating between functional and organic disease and ruling out organic lesions of the gastro-intestinal tract in diseases which may have symptoms referable to the digestive system.

Secondary Amyloidosis: Results Of Therapy With Desiccated Whole Liver Powder

Grayzel and Jocobi (*Annals of Internal Medicine*, July, 1938, page 39) report on the remarkable results obtained by continued use of liver powder (4 to 8 gms. thrice daily) in cases of secondary amyloidosis showing all the classical symptoms of the disease. Thirteen cases were treated of which six are now completely free of all the clinical signs for periods of from eight months to six years. Two cases showed enormous improvement, four cases died but these took the liver preparation very poorly and irregularly, one left the institution before a sufficient period of treatment had elapsed. The clinical improvement of the amyloid state occurred even when the active suppurative infection persisted. The essential of success in this treatment is the persistent use of the drug despite absence of clinical improvement for periods of three or more years, the first sign of improvement being the diminution in size of the liver and the spleen. The role of reticuloendothelial system and disturbance of endogenous protein metabolism in the formation and resorption of amyloid are discussed and a theory is advanced as to the mechanism involved. Moreover, amyloidosis is a reversible process. The authors maintain that it is no longer necessary to regard this disease as incurably progressive. The treated cases reported and the experimental evidence previously reported go to show that amyloid may be a curable malady.

Chemotherapy In Acute Poliomyelitis

Contat (*Schweizerische Medizinische Wochenschrift*, June 4, 1938, page 669) reports very successful results obtained with potassium chlorate in the treatment of acute poliomyelitis. The dose of potassium chlorate varies with the age of the patient and severity of the condition. The initial dose for an infant of one month is 0·30 gm. to 0·45 gm. increased up to the age of 30 months to 3 to 4·5 gms. Adult dose is 5 to 6 gms. In addition, nasal instillation of a 2% solution 5 drops 4 times a day is used. The prophylactic dose is two-thirds of the therapeutic dose combined with nasal instillation. The length

of treatment and frequency of the dose will depend on the severity of the case. The results shown by the author are remarkable and the drug should be further tried.

The Treatment Of Parathyroid Tetany With Dihydrotachysterol

MacBryde (*Journal of American Medical Association*, July 23, 1938, page 304) observes that symptoms of hypocalcæmic tetany can be entirely relieved by small doses of dihydrotachysterol. Patients receiving the drug require very small doses of calcium in addition for raising the blood calcium, For acute symptoms of tetany (hypoparathyroidism) the methods of choice are intravenous use of calcium and intramuscular injection of parathyroid hormone but for prolonged chronic tetany parathyroid is ineffective and dihydrotachysterol is the only effective therapeutic measure. Its advantages are: (1) the effect is prolonged, (2) it is taken orally and it is less expensive, (3) no tolerance is developed and (4) it is stable and retains its potency when kept at ordinary room temperature.

SURGERY

Brain Abscess

Horrax (*British Journal of Surgery*, January, 1938, page 538) in a joint meeting of the British and American Society of Neurological Surgery in London read a paper on the subject with a review of 30 cases of brain abscess from his experience of over nine years. These cases fall under 2 groups:— (1) acute and multiple, often metastatic abscess usually having serious pulmonary complications and (2) chronic single and encapsulated abscess. Only three cases of the first group were reported and in these cases operations are usually unsuccessful. The second group is fit for operative treatment which consists principally of 3 methods, *viz.*, marsupialization, tapping and extirpation. The author points out that marsupialization should be done in cases which are within 1 to 3 cm. from the surface and it consists of noting where the abscess comes nearest the surface by exploring with a blunt ventricular needle through one or more burr holes, enlarging the bony opening, sucking out part of the abscess contents and finally stitching the capsule to the galea aponeurotica leaving a gutta-percha gauze drainage. Repeated tapping is another method. Extirpation is also successful but the author found equally good results with marsupialization. The author concludes by noting that marsupialization is the treatment of choice in a case of chronic encapsulated abscess and the mortality rate ought not to exceed 10 to 20% (it was 11·7% in the author's series).

Intra-Arterial Glycerine Treatment Of Elephantiasis

Bowesman (*British Journal of Surgery*, July, 1938, page 86) reports on the successful results obtained in elephantiasis of the leg due to filariasis by intra-arterial injection of 2 to 3 c.c. of sterile 10% glycerine repeated at weekly intervals. There is marked reduction in the size of the limb and definite relief of dull aching discomfort in it. The early cases get better results than old ones. The injection is safe and the results obtained are encouraging and justify further trial of the method.

Primary Actinomycosis Of The Breast

Ray and Trivedi (*British Journal of Surgery*, July, 1938, page 30) report of a case of primary actinomycosis of breast (very rare) in a multiparous woman who habitually practised prolonged lactation and who gave a history of recurrent attacks of mastitis of the said breast. The pathogenesis of the condition is not quite clear and the authors suggest that if the maternal breasts are frequently traumatised by teeth of older children the infection may accidentally be transmitted from the carious or diseased teeth (actinomycosis bovis is a normal inhabitant of the human mouth). The authors report another unpublished case of primary actinomycosis of the breast simulating scirrhus carcinoma in a multiparous woman.

Amœbic Abscess Of The Lung Complicated By Cerebral Abscess—Report Of A Case

Putney (*Diseases of the Chest*, August, 1938, page 20) reports of a case of hæmatogenous amœbic abscess of the lung followed by an acute brain abscess. By emetine therapy and repeated bronchoscopic drainage the lung lesion was healing as was

evidenced from the clinical and radiological reports when the onset of cerebral metastasis carried away the patient. The abscess resulted from an amœbic pneumonic lesion. The autopsy report is also given.

Calcium Chloride And Visceral Colic

Lampson and others (*Surgery, Gynæcology and Obstetrics*, June, 1938, page 975) observe that intravenous use of calcium chloride is effective in patients with spasmodic pain resulting from a localized irritative state. Fourteen cases with irritative background were treated with calcium chloride with success in all but two cases in both of which the disease was very extensive. How calcium acts in these cases it is not definitely known ; probably it exerts an analgesic effect on the nervous system. It acts promptly in relieving the spasmodic pain. With the relief of pain the muscular spasm is relaxed and careful examination of the patient is possible without generalised sensory depression which is brought about by morphine and its derivatives—thus it is also an aid in diagnosis.

Irradiation Sickness

Martin and Moursund (*Radiology*, March, 1938, page 277) have found very good results with vitamin B_1 in irradiation sickness, 2000 international units are given by mouth daily for at least two days before the X-ray treatment is started and during the course of treatment. If vomiting occurs 2000 I. U. of vitamin B_1 are given intramuscularly at once. In addition, a high carbohydrate diet is recommended. If relief is not obtained by this method of treatment one of the solutions of barbituric acid is given per rectum.

PATHOLOGY AND BACTERIOLOGY

The Effects Of Irradiation On The Normal Blood Cells As Determined By The Blood Count

Kornblum and others (*American Journal of Rœntgenology*, February, 1938, page 235) give in the following lines the summary of their observations:

1. Roentgen and radium irradiation as applied therapeutically has no significant effect on the red cell count or the hæmoglobin content of the blood.

2. Anæmia *per se* is not a contra-indication to radiation therapy.

3. Therapeutic irradiation tends to lower the leucocyte count. This is by no means a universal effect.

4. The various leucocytes are affected differently by irradiation. The greatest decrease occurs in the lymphocytes, and then the neutrophiles, with the monocytes and eosinophiles being the least affected.

5. In this study there was no apparent relationship between the effect on the leucocytes and the part of the body treated, the amount of irradiation, and the period of time during which the patient was irradiated. The effect appeared the less marked, the smaller the size of the areas treated.

6. On an average, about five weeks were required after irradiation for the count of the various leucocytes to return to the pre-irradiation level. When the count does not return to this level in a period of eight weeks it suggests an unfavourable prognosis.

7. Daily intramuscular injections of 2 c.cm. of liver extract, 20 c.cm. of which represents the extraction from 100 gm. of fresh liver, did not prevent the depressing effect of irradiation of the leucocyte count.

8. No evidence was found to indicate that the effect of irradiation on the blood is to render the patient more susceptible to infection.

9. Irradiation leucopenia does not prevent an increase in the number of leucocytes when infection occurs. There is reason to believe, however, that this increase is not as great as that which occurs in non-irradiated individuals.

10. Clinical observation fails to reveal any detrimental effect on the general health of the patient, which might be directly attributable to irradiation leucopenia.

11. Attempts to increase the leucocyte count in irradiated patients by intramuscular and intravenous injections of liver extract in amounts sufficient to cause a definite leucocytosis in normal persons were unsuccessful.

12. The intravenous injection of typhoid vaccine, which normally causes a sharp rise in the leucocyte count, produced no significant effect in patients receiving, or immediately after receiving, a series of radiation treatment. Several months after the cessation of therapy a characteristic response was obtained.

13. Injections of liver extract or typhoid vaccine afford a means of determining whether the blood of an irradiated patient has recovered sufficiently to permit a second series of treatments.

14. It would seem inadvisable, as the result of irradiation to permit the neutrophiles to drop below, 1,000 and the lymphocytes below 250 cells per c.mm. of blood.

15. From a practical point of view, the effects of irradiation on normal blood, as determined by the blood count, are of little clinical significance.

16. An accurate record should be kept of the blood of all patients receiving radiation therapy, not because of the effect of radiation on the blood, but as an additional means of following the clinical course of the patient's disease.

17. It is recommended that one or more complete blood counts be made before irradiation is begun and repeated during irradiation every two weeks, or oftener, if the leucocyte count tends towards a low level. If significant changes occur in the blood, counts should be continued until the blood has returned to its pre-irradiation state.

Uræmia After Transfusion

De Gowin and others (*Archives of Internal Medicine*, April, 1938, page 609) report on the investigations on the kidneys of nine human beings who had died of renal failure after incompatible blood transfusion. They also report on the kidneys of numerous dogs in which renal failure was experimentally induced by infusion of lysed red cells. The results of this investigation go to show that two separate mechanisms are responsible for the causation of renal failure after incompatible transfusion and they are (1) mechanical obstruction of the renal tubules by precipitated hematin and (2) necrosis of the renal tubular epithelium probably brought on by heavy deposition of hemosiderin. They further point out that the extent of this damage is enhanced if the urine is kept acid by ammonium chloride before and after transfusion. They accordingly recommend that the urine should be kept alkaline after incompatible transfusion.

Pulmonary Embolism As The Primary Cause Of Death In 10,650 Necropsies

Krishbaum and others (*Illinois Medical Journal*, August, 1938, page 145) report that there were 25 cases of pulmonary embolism as the anatomical cause of death in a series of 10,650 necropsies and of these 14 were surgical cases and 11 non-surgical. Infection and cardiac failure were the precipitating factors: the age incidence varied greatly, the youngest patient was 16 years, the oldest 79; 80% of the cases were females; 72% of the cases showed some change in the heart and 28% had none; the thrombus was located in both branches of the artery in 72%, in the right branch in 4%, in the left in 16% and in the pulmonary artery proper in 8%; associated venous thrombosis was present in 76% of the cases.

OBSTETRICS AND GYNÆCOLOGY

Pitocin In The Third Stage Of Labour

White (*American Journal of Obstetrics and Gynæcology*, July, 1938, page 90) observes that the average duration of the third stage of labour is 5·4 minutes with intravenous pitocin and 6·5 minutes with intramuscular, that the oxytocic action of pitocin is quicker and shorter than that of ergot, that the placenta is separated quickly without producing any trauma to the uterus or laceration of the placenta and the membranes and that the blood loss is much less. The author further notes that there is no increase in incidence of retained placenta following its use. The immediate ill-effects after intravenous or intramuscular injection of pitocin are nil and the drug can be given in toxæmia of pregnancy.

Post-menopausal Vaginal Bleeding

Taylor and Millen (*American Journal of Obstetrics and Gynæcology*, July, 1938, page 23) write that of 406 gynæcological cases admitted for vaginal bleeding after menopause 63% was caused by malignant tumor, 17% by benign tumors of the uterus or ovary, 11% by inflammatory lesions usually of the cervix or vagina and 8% by undetermined causes (no gross lesion was present in the pelvis to explain the bleeding). The authors further point out that several of the last group showed hyperplastic

changes in the endometrium and they are important as precancerous lesions.

Uterine Rupture After Cæsarian Section

Richards (*British Medical Journal*, June 25, 1938, page 1359) deals with the subject under 5 groups:—(1) rupture occurring through an old upper segment incision, the placenta being situated away from the old scar, (2) rupture occurring through an upper segment incision the placenta being situated underneath the old scar, (3) rupture occurring after a previous lower segment section, (4) complete rupture through an upper segment incision and the child with the bag of membranes is expelled into the abdominal cavity while the placenta remains *in situ*, (5) complete rupture through an upper segment incision the child and the placenta being extruded *in toto* into the abdominal cavity. The author lays stress on the danger of rupture of the scar at a second pregnancy in a patient who had cæsarian at the first.

The Menopausal Syndrome: Treatment With Œstrogen

Hawkinson (*Journal of American Medical Association*, July 30, 1038, page 390) writes that there is a natural decline in ovarian function at menopause and this ovarian hypofunction is followed by hyperfunction of certain factors of the anterior pituitary (*e.g.*, adrenotropic factor overstimulating the adrenals, thyrotropic factor the thyroid, etc.) resulting in a hormonal imbalance ultimately affecting the autonomic nervous system. 1000 cases of which 841 were cases of normal menopause and 159 of artificial menopause were treated with œstrogenic preparations. 510 patients had the treatment by injections, 210 by oral route and 280 had combined treatment. Results are:—69·1% were relieved of the majority of symptoms, 14·9% were improved, 10·9% were doubtful, 5·1% obtained no relief. 10,000 international units given hypodermically every three or four days for about 12 injections or 100 active biologic units to 6,000 international units given orally every day for a period of from 15 to 60 days are sufficient to relieve the majority of subjective symptoms. Patients with artificial menopause require larger doses. The combined treatment is the method of choice; as soon as the symptoms have been controlled the dose is gradually reduced and the patient is placed on maintenance dose and this must be continued as long as necessary which means somewhere from six months to many years. No ill-effects were seen in any patient even when doses up to 100,000 international units per week were given over a period of many weeks. Involutional melancholia, pruritus vulvæ, senile vaginitis and menopausal hypertension are also frequently relieved by œstrogen.

Œstradiol Benzoate Therapy In Senile Vaginitis

Macgregor (Transactions of the Edinburgh Obstetrical Society, Session XCVII, *Edinburgh Medical Journal*, August, 1938) gives below a clinical study of senile vaginitis which is an inflammatory condition of the vagina characteristically associated with post menopausal life and reviews the treatment of the condition with œstradiol benzoate in 15 cases treated by him. In ætiology the predisposing causes are (a) an atrophic condition of the vulva and vagina and (6) loss of barrier action of the acid medium in the vagina and exciting factors are (a) an irritating uterine and cervical discharge and (b) repeated minor traumas; symptoms include vulvar irritation and vaginal discomfort, vaginal bleeding, dysuria, discharge and dyspareunia. The author treated the cases with intramuscular injection of œstradiol benzoate. In some cases 10 mgms. were given daily whilst in others only bi weekly injections of 5 mgm. were used. Eight patients were completely cured and are now free from symptoms for periods of form fourteen to twenty-one months. Seven were but relieved in as much as they are almost symptoms free but there is still evidence of some inflammation. Of this one is diabetic two have associated leukoplakic condition of the vulva and in the remaining four the amount of therapy given was inadequate. The author mentions that this treatment with œstradiol benzoate in senile vaginitis restores the atrophic epithelium to the same condition as that which existed before menopause. Treatment with suppositories containing the said drug was a failure in his hands probably because of deficient absorptions of the drug from the unhealthy vaginal epithelium. The same treatment may be of use when the ephithelium has been rejuvenated by intramuscular therapy. The treatment with œstradiol benzoate did not produce any ill-effect except in two cases—in the first the

patient complained of pain and fullness of the breasts and in the second there was very slight uterine bleeding.

PEDIATRICS

Modern Treatment of Pyelitis in Children

Hill (*The Medical Press and Circular*, August, 1938, page 128) writes that pyelitis is extremely common in both infants and children and as B coli is the most common offending organism, the treatment of the condition resolves into eliminating the said organism from the system. In the acute stage bed rest, light fluid diet, plenty of fluid drink, careful regulation of the bowels which should never be allowed to become loose or constipated, and keeping the genital organs specially of the female scrupulously clean to avoid ascending infection are some of the general measures to be adopted. The urine is rendered alkaline and kept so by large doses of alkalis *e.g.* potassium citrates with or without sodium bicarbonate. In some cases the fever is controlled by this simple treatment but relapses are common. Hexamine grains one to two to an infant with acid sodium phosphate are given for a week or more alternating with the alkaline treatment (this renders urine alternately alkaline and acid). Ketogenic diet is sometimes useful but it is impossible to follow unless in an institution. Mandelic acid treatment to be successful must have the following essentials *viz.*, (1) the pH of the urine must be below 5·5 (simultaneous administration of ammonium chloride: some preparations require no additional urinary acidifier *viz.*, calcium mandelate etc.), (2) the fluid must be restricted to have a proper concentration (2 pints in adults), (3) not to be used in cases of renal failure, (4) useful in chronic cases only (5) cannot be continued for prolonged period for fear of gastro-intestinal troubles. Sulphanilamide has been recently found to be quite efficacious in these cases. 1/4 tablet 3 times a day for a child of 2 years is safe. The advantages are:—(1) It can act rapidly (the urine becomes sterile in 3 to 4 days), (2) there is no need of fluid restriction, (3) no gastro-intestinal irritation symptoms (4) it acts best in alkaline urine and is bactericidal to all organisms found in the urine including B. proteus. The precaution to be taken during the course of sulphanilamide treatment is that no sulphur or sulphur containing compounds *e.g.* eggs, Epsom salt or pulv. glycerrhiza compound, etc. are to be administered to the patient. Autogenous vaccine is useful in obstinate cases. General health is to be improved and particular attention is to be paid to the management of the bowels and cleanliness of the external genitalia as mentioned above. In spite of this frequent relapses occur and in these cases further investigations of the whole of urinary system including the kidney is to be made for rational treatment.

Fever in Children

Prilla (*Illinois Medical Journal*, May, 1938, page 420) gives in the following lines resume of treatment of fever in children:

First aim of the treatment is to establish the underlying cause of the fever and treat that particular cause.

General measures: Isolate the sick child so as to protect other children of the family. Keep the child in bed until temperature is normal for at least 24 hours. Sick room must be well ventilated and kept at about 75°; the humidity of the air is maintained by boiling water or by hanging up wet sheets. Child must not be overdressed and not covered with heavy bedcloths. Oral hygiene in other children should be maintained by the use of a mouth wash and brushing of teeth.

Diet: Push fluids—water and particularly citrus fruit juices. (The urine must be watched in the meantime as to its amount, specific gravity and colour, dark, amber-coloured urine indicates insufficiency of fluids; watery, light-coloured urine—too much fluids). If necessary in a child over 4 years of age, administer fluids per rectum, giving about 4 ounces of 5% glucose in saline solution (keep the rectum tight for about 5 minutes); subcutaneously into the thighs, intravenously or intraperitoneally, if no other way possible and the child is dehydrated. Feed the child little at a time but often, to prevent ketosis and mineral imbalance. Carbohydrates—easily digestible, in the form of: hard candies, jellies, custards, cereals, zwiback, salty crackers, etc. Milk is an excellent food for the febrile child and it is preferably given in the form of skimmed milk, because fats are not well

digested in the febrile state. Cooked fruits—apple sauce, cooked prunes (mashed).

Elimination: Luke warm enema, repeated, if necessary, until returns are clear , not oftener than every other day.

Suppository may be used in infants, milk of magnesia if mild action desired, castor oil if drastic action indicated.

Drugs: Aspirin—in proper doses, combined with alkalies (citrates). Euquinine slows the pulse, quietens nervous system and calms pain. Bromides, barbiturates or paregoric as sedatives. Caffeine, aromatic spirits of ammonia, adrenalin when stimulants are indicated. Hydrotherapy is employed when temperature reaches 104° or more, or when child is very restless. Sponge bath using alcohol and water (half and half); sponging one part of the body after another while keeping the rest of the body covered to avoid chilling. Immersion into a lukewarm or tepid bath is quite effective in reducing fever. Wrapping child in wet tepid sheets or flannel blanket. If convulsions develop rapid immersion into a lukewarm tub-bath and an ice bag to the head, or a tepid wet pack may be applied.

In case of cyanosis or dyspnœa—oxygen inhalation. Blood transfusion is at times a life saving procedure.

Addison's Disease In Childhood

Atkinson (*British Journal of Children's Disease*, April, 1938) reviews the literature on the subject and collects from it 45 cases (from 1855-1937). The cases ranged in ages from 7 days to 14 years though only 5 cases were under 10 years. 25 cases were males and 15 females. The view that the tuberculosis of the adrenals is always present in this disease is wrong and is to be abandoned as autopsy records of this series showed that the adrenals were normal in some and atrophic or absent in others. The condition is always fatal.

Vomiting In Diabetic Coma

Payne (*Lancet*, July 23, 1038, page 195) gives in the following lines the summary of his observation:—

Hypoglycæmia in children often causes abdominal pain and vomiting. In some cases it progresses to diabetic coma.

It is suggested that the cause of this in the first place is the secretion of adrenalin. Similarly the vomiting in acute febrile conditions may be due to increased adrenalin secretion.

The treatment in the early stage is to give sugar but in the next stage extra insulin must be given as well as sugar.

INDIAN MEDICAL ASSOCIATION

ANNUAL GENERAL MEETING

NOTICE.

The Tenth Annual General Meeting of the Indian Medical Association will be held on the 29th December, 1938, at 9-30 A.M. at Meerut during the sessions of the XV All-India Medical Conference.

Members wishing to move resolutions at the Annual General Meeting are hereby requested to submit the same through their local or Provincial branches so as to reach the office of the Hony. General Secretary, Indian Medical Association (12, Samavaya Mansions, Calcutta), not later than the 15th November, 1938. Members may, however, send resolutions direct to the Hony. General Secretary in which case a copy of the same will have to be previously submitted to the local or Provincial branches as the case might be. Resolutions reaching this office after the 15th of November, 1938, will not be included in the agenda for circulation.

K. S. RAY,
Hony. General Secretary,
INDIAN MEDICAL ASSOCIATION.

THE POSSIBILITY OF A FEDERAL COLLEGE OF SURGEONS AND PHYSICIANS IN INDIA

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There are two main defects in the medical education in India; firstly the creation of caste system in the medical profession, *i.e.* the licentiates on the one as untouchables and the graduates and those with British qualifications including licentiates on the other as high castes, and secondly, the meagre facilities offered throughout India for post-graduate studies. Medical science is a progressive science and thus it is desirable that every student of hers should follow the day to day developments. Moreover this is the age of specialization and naturally one can be a jack of all but master only of one subject. Pharmacy is as opposed to radiology as chemistry to physics, or bacteriology and pathology have the same relation to psychiatry as biology to philosophy. This is the reason why in America and Europe there is so much specialization, and in England, in particular, there are so many post-graduate diplomas.

Dr. Vyas of Lucknow in the course of his presidential address at the All-India Medical Conference at Karachi rightly remarked, "Our graduates flock to Europe in large numbers to get post-graduate qualifications at great expense and trouble." I can say from personal experience that in spite of all the expenses and the troubles, many students do not get admission in a majority of the teaching hospitals of London, as they are overcrowded with their own students. Even granting that all the students from India get all the facilities in London or other places, this will not solve the problems of the poor students seeking post-graduate studies and also of the licentiates as a whole. Before the All-India Medical Council came into existence, the licentiates were allowed to appear for the examinations of either the conjoint board or of the society of apothecaries, but since 1934 they are refused even this last chance of rising above their present status. These examining bodies are perfectly right in refusing this privilege when the licentiates in their own country are considered to be unfit for registration in the All-India Medical Register which had to be dropped.

What can be the ultimate remedy for such a state of affairs? My scheme given below will solve the problems both of the licentiates and of post-graduate study. I hope and trust that all the ministers of provinces and also the members of the States and the heads of the medical departments in different provinces and States will give a weighty consideration to the scheme that I now put forward.

A Federal College of Physicians and Surgeons may be started at a suitable and central place like Delhi on the lines of the Royal College of Surgeons and Physicians in England. Like the latter, the former should be solely an examining body to start with, the teaching being given in different recognised hospitals all over India. Later on, if the conditions demand, it may develop into a full-fledged teaching college with research departments. The proposed college may be considered under the heads—(1) Functions, (2) Governing Body, and (3) Finances.

Functions

To hold examinations to the satisfaction of the Indian Medical Council and grant both qualifying and post-graduate diplomas.

(A) *Qualifying Diploma*—The most important diploma that I can think of is L.F.C.P. and M.F.C.S. (India). Any one, who has devoted five years to medical study in any medical school or college, may be allowed to appear for this examination. This diploma should have the same status as L.R.C.P. and M.R.C.S. (England), *i.e.* a person with L.F.C.P. and M.F.C.S. should have the same status as an M.B., B.S. as regards appointments in public services and can aspire for any higher qualification on the same footing with an M.B.B.S. The grievances of the pre-

sent licentiates will disappear altogether by introducing such diplomas.

(B) *Post-Graduate Diplomas.*

(i) General—Fellowship of the Federal College of Surgeons and Membership of the Federal College of Physicians may be started on the lines of F.R.C.S. (England) and M.R.C.P. (London). These diplomas may be given to eminent medical men as honorary and by examinations to others and for which both M.B.B.S. of any University and L.F.C.P. and M.F.C.S. (India) should be eligible.

(ii) Special—(a) Diploma in Public Health (D.P.H.). There is already a diploma of this type offered by many universities. The Federal College should also offer this diploma and the licentiates of the Federal College should be allowed to appear along with graduates. There is a real need for this diploma for the Public Health Department. (b) Diploma in Tropical Medicine and Hygiene (D.T.M. & H.). This diploma should attract even foreign, specially European students, who can learn tropical diseases better in a tropical country than in European countries. (c) Diploma in Child Health and Midwifery (D.C.H. & M). There are so many centres for maternity and child welfare and the holders of this diploma should be given preference for employment in such centres. (d) Diploma in Psychological Medicine (D.P.M.). A prisoner is no longer regarded as a criminal to be condemned but as a man of unsound mind who requires the help of a psychologist for reform and re-adjustment to the environments. During recent years all the medical officers of jails, in England, are getting diplomas in psychological medicine. In India, in different provinces, there is an enthusiasm for jail reforms. The jail medical officers should be induced to have this diploma. Thus those that aspire for jobs in mental hospitals and in jails will try to have this qualification. (e) Diploma in Ophthalmology, Laryngology and Otology (D.O. & D.L.O.) should attract a large number of students even from foreign countries, as there is the greatest scope for eye, ear and nose work in India. (f) Diploma in Medical Radiology (D.M.R.). With the development of electricity in India, many general hospitals will have X-ray and electric treatment plants and hence the need for this diploma. And lastly (g) Diploma in Pathology and Bacteriology.

(C) *Nursing Diploma*—The Federal College may also grant nursing diploma on the lines of C.M.B. of England.

(D) *Pharmaceutical Diploma*—Diploma in pharmaceutical chemistry may be granted to the future chemists of India.

Governing Body for the College

The Governing body should consist of members, a chairman and a secretary. The deans of the medical faculties of different universities in India and principals of medical schools, and also an elected old boy from every college and school should be members of the Governing Body. The members from amongst them will elect a chairman. There should be a whole time secretary, a paid medical man, to do the routine work with an office at Delhi. The inspectors appointed by the All-India Medical Council for university examinations should also be the inspectors for the examinations conducted by the Federal College.

Finances

(a) *Income*—Though it may sound strange, it is a fact that Indian students pay as examination fees to the examining bodies in England, something like Rs. 50,000/- per year for different examinations, besides the expenses that they incur in board and lodging. The details may be worked out if so desired. If all the examinations are held in India, the Federal College can expect more than that amount, as many students who cannot afford to go to England, will also appear in the home examination. Some two to three hundred L. M. P.'s will try to take L. F. C. P. and M. F. C. S. every year and if the examination fee is kept the same as in England, it will give an income of Rs. 25000 more. In all, something like one lakh, on an average may be expected as income from the fees.

(b) *Expenditure*—Naturally half of the money will be paid to examiners and there will be a saving of 50,000 to the College. With this money in hand the College can be self-supporting with a staff consisting of a Secretary Rs. 800/- to 1200/- a month and three to four clerks and some menial staff. In my opinion, after meeting all the expenses, the College will be saving enough money every year, which can

be utilised in building a permanent home for the College.

India is not lacking in public benefactors. If a start is made, liberal donations may be expected from the well-to-do and if ministers in the provinces and native states decide to help this public cause, in no time, a full-fledged teaching Federal College can be built also. In the meantime, there is no reason why at least an examining college should not be started at once as detailed above—the teaching work being carried out in different schools and colleges all over India.

In the end, the author welcomes any criticism from the readers of this article and he hopes that the Indian Medical Association will take means to have this scheme materialised.

A PLEA FOR ONE MEDICAL SCIENCE IN INDIA

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Now that the proposed Medical Practitioners' Act is before the Assembly and the Select Committee, it is necessary that one should have a thorough explanation of the objects and reasons for such an Act and also should explain to the public what are the fundamental factors which make the modern medical science.

The main idea of the Act is to stop quackery by getting under registration all the people who are practising in the name of scientific medicine and examine their credentials for doing so and to prevent in future, furthermore persons coming up to practise medical science without having training in the fundamental sciences and the scientific medicine. There is some confusion created by preparation of separate lists and it would have been much better if a licensing board had been created and empowered to grant licenses amongst practitioners of 10 years' standing to only those who are in some way qualified and have some knowledge of practice of medicine in a scientific way and who should be controlled by this Board in proper discipline.

"Such sort of free registration to every person who was practising medicine for sometime was given in England when the first Medical Registration Act of 1858" came into force. The Medical Act of (1858) England, S.40 prescribed a fine up to £20 for any person who wilfully and falsely used the title which implied that he was registered.

Vienna has just passed a new medical law. The section dealing with the penalties for unqualified practice imposes a fine not exceeding 2000 shillings or imprisonment up to three months. This is a very important clause, for it gives, for the first time in that country an opportunity to combat quackery. Hitherto this evil could never be eradicated, since the law required the proof of a regular, paid occupation, and the quacks were clever enough to slip through the wide meshes of such a net. Now they need not be summoned before a court, but can be sentenced by the local magistrates. The profession there has received this new regulation with uniform satisfaction.

The " Aerzte-ordnung," as the new law is termed, is divided into five parts. " The first part " defines for the first time in Austrian Legislation the medical profession " and enumerates the conditions required for the right to practise. The definition says that practice of medicine comprises curative treatment of diseased persons, diagnosis and giving of expert opinions on diseased conditions, prophylaxis, prescription of remedies for prophylactic therapeutic and diagnostic purposes; and for removing the ailments of the human body. It thus does away with the difficulties of prescribing narcotic drugs. The diagnostic or therapeutic application of X-rays is expressly reserved for the medical men. Medical practice is reserved exclusively for qualified persons who must have the following: Austrian federal

citizenship, a certificate of having passed the "Matura" examination before the year 1918 in one of the provinces of the former Austrian Empire or in the State. A "Matura" testimonial or a medical diploma of M.D. obtained either in the old Empire or in the State. A "Matura" testimonial or a medical diploma conferred abroad is valid only if it is equivalent to the one obtained in Austria and afterwards recognised in this country or in the old Empire. Furthermore, inclusion in the medical register is absolutely essential.

The second part of the ordinance deals with the rights and duties of the "Arzt." (Doctor). This denomination is reserved strictly for those complying with the stated requirements. No other person may assume a similar title, such as a nature-arzt, magnet-arzt, homœopathic-arzt or publicly use titles obtained abroad unless permission is obtained. The designation "Fach-arzt" (specialist) will be conferred on those entitled to it by an ordinance.

It would be agreed by all that the present-day medical education is based on one uniform standard of scientific education in practically all the advanced countries of the world and also in those which are adopting modern methods such as Japan, Turkey, Persia, China, etc.

It will be admitted that the basic sciences of Chemistry, Physics, Biology, Physiology and Pharmacology (knowledge of drugs) are of one uniform kind all over the world. There are no separate systems in those sciences such as Indian, Japanese or Eastern Chemistry and Western Chemistry or Physics or any separate formulas for separate countries.

Chemical and pharmaceutical nature of the water we drink, the air we breathe and the food and drugs we take is the same all over the world whether it be West or East, and it seems strange that educated people including legislators, lawyers and even some scientists should talk about different systems of medical science (Ayurvedic, Homœopathy, Unani, Osteopathy, etc.) when there is only one scientific medicine which is based on the same scientific subjects all over the world and not on Ayurvedic chemistry or Unani physics or Homœopathic biology, etc.

Now, as for the cry for the various non-scientific organisations to have separate registration, one should understand in ordinary lay language how the other professions such as legal or motor repairing, etc., are organised. Surely one cannot be a qualified and registered lawyer and allowed to practise before the courts simply on his knowledge of Hindu Law or Mohammedan Law or English Law. He must have fundamental training in legal principles of contract, Tort, etc., and then he must study its various branches and pass a standard test; then he is labelled an Advocate or Barrister or Pleader. There cannot be an Ayurvedic Lawyer and Unani Barrister or some such absurd nomenclature. The same is the case with the medical profession. One cannot be fully labelled as a doctor of medicine and qualified as a practising doctor unless he has the basic knowledge of fundamental sciences of chemistry, physics, physiology, biology and also of medicine, surgery, midwifery, etc.

A similar analogy of the mechanics of the body and its repairs (physiology, diagnosis and treatment) can be applied to the motor-car repairing. Although there are hundreds of different types of cars, one must have a fundamental knowledge of mechanisms of internal combustion engines, electricity, etc., before one can qualify for the finding of motor car faults and its repairs. So a man cannot claim to repair the ills of our bodies without the knowledge of the basic sciences as stated before. So this cry about separate systems such as Ayurvedic, Unani, Homœopathy, Osteopathy, etc., is all unscientific and does not meet with the fundamental necessity of scientific medical education which is one, all over the world and takes the best from all the various drugs and methods practised in different countries. Modern nations like Japan, Turkey, Persia and China, when reorganising their medical profession, did not adopt Japanese or Unani or Chinese medicines as separate systems, but they only followed the scientific medical profession. Surely there are drugs and methods, etc., peculiar to each country which may be incorporated if their proper scientific properties are recognised after proper investigations. Recognition can be given to the indigenous drugs and methods by compiling a list of these drugs and methods and by including their studies in the curricula of medical colleges.

In the Benares Hindu University, Pandit Malviya, (than whom there is no more ardent

advocate of Indian Medicine) in his zeal to further the Ayurvedic teaching, has established an Ayurvedic College, and there also, the following course of instruction is adopted:—Courses of instructions extend over six years comprising intensive study of all the ancient Ayurvedic Shastras under eminent Scholars of Ayurveda and supplemented by a study of modern scientific subjects—Chemistry, Physics, Biology, Anatomy (including dissection of complete dead body), Physiology, Surgery, Midwifery and Gynæcology and Bacteriology and Pathology. Special stress is laid on treatment of tropical diseases by modern methods also wherever found necessary. A hospital comprising of one hundred beds is attached to the College where the students have to work in Medical, Surgical and Obstetric work during the last three years of their studies. Thus it shows that without the modern medical science, Ayurvedic or any other teaching cannot possibly be done. The same is the case with Ayurvedic and Unani Colleges at Delhi and other places.

I cannot do better than quote (from Dr. Ghosh's Materia Medica) what Dr. Ghosh says about the various separate claims for separate systems:—"Our next efforts will have to be directed to furnish reasonable answers to apprehend opposition from the vested interest of the practitioners of the old Indigenous Systems—the Baidyas, Kavirajes and Hakims as also to the dogmatism of the public born of honest ignorance and honest faith in what they, through patronomic impressions of long duration backed by large newspaper advertisements of practitioners as well, perhaps think, an esoteric truth realised through an esoteric and immutable angle of vision.

To all of them. I would put the following by way of answer:—

One of the first compilers of Ayurveda, namely Charaka, said that you must not only understand the Vedas but all other things that are not against Vedic spirit and that are settled by observations and experiment, and that by men of disciplined and honest spirit and are calculated to benefit humanity. It is thus clear that Maharshi Charaka, never contemplated a fixed finish for Ayurveda, but desired it to be corrected and enriched by progressive observation and experiment. According to this definition we are by no means Anayurvedists or Non-Ayurvedists but by spirit and work true Ayurvedists. I would even suggest that it would be worthwhile for all of us to assume this designation and give it to the rest of the world as the best name for our profession. It is a matter of regret that we see around us amongst the practitioners of old Ayurveda and amongst the many leading men a complete deviation from the aforesaid true spirit of Ayurveda, when they in a spirit of denunciation writing in books and periodicals, refer to an invidious difference and draw a line between it and its changed corpus—the modern medical system they forget the fact that a doctor doing so can be excused, for five if not less, in a 100 of them, do not know the definition of Ayurveda, whilst every Ayurvedist particularly these learned men should always remember what it really means and should never think of thus disgracing the glory of the excellent comprehensiveness of Ayurveda or forget the fact that science, and for the matter of that, the science of medicine (and I should say Ayurveda as well) is a common heritage of humanity. The glory of ancient India lies in her being the parent of the medical science as we here assert in her still a large amount to teach. Did not Maharshi Charaka suggest that above all, men of our profession should be Shista or men of disciplined and honest spirit? But only lately a man of the calibre of Mahatma Gandhi noticing the violation of the same spirit, impeached a number of practitioners of the Old Ayurved while presiding at a ceremony of an Ayurvedic Institution at Calcutta.

I should say, that it is even for the sake of our national welfare that we should do all to rectify this dangerously misleading spirit wherever found and discourage a spirit of communalism in Science where it is most culpable.

So let us have in India, one and only one medial science which is adopted by the scientists all over the world and incorporate into it whatever is good anywhere in our own country or outside. This is the only way by which we can have an Indian United Medical Profession which should give its best and scientific medical relief to all, rich and poor alike, in the cities as well as in the villages. I am sure, the Ministers in charge of Medical Education and Relief in various Provinces, who have the welfare of the country at heart, will keep the above ideas in mind in reorganising the medical relief and public health in their various Provinces.

THE UNANI SYSTEM OF MEDICINE

SIR SHAH MUHAMAD SULEMAN
Judge, Federal Court

Considering that the sub-continent of India contains about 350 million people, with a very high death-rate, the need for wide-spread medical organisations is indeed very great. In spite of overcrowding in the urban areas, the distribution of medical practitioners in the rural areas is very inadequate and there is still great scope for competent medical practitioners.

But the science of medicine stands in a different position and cannot be regarded as a mere catalogue of prescriptions and medicines. The development of real science is lacking in the indigenous systems. There was a time when Dhanwantari, the father of the Ayurvedic system, ministered to the diseases of mankind and his fame and reputation spread far and wide and pupils came from all parts of the country to learn the science of medicine and surgery from him.

Centuries later, the Arabs after having borrowed the Unani system from the Greeks, as its name indicates, developed it in a remarkable degree. Great names of Rhazes (Alrazi), Avicenna (Abi-Sina), and Geber (Jabir), are still of lasting fame. Avicenna's monumental work, "The Canon of Medicine" was the standard encyclopædic work for over 500 years and was a recognized authority even at European centres. But unfortunately Qunum-i-Sheikh, or rather its translation, is still being taught to students in India as the standard text-book despite the fact that with the tremendous progress of medical science during the last centuries the old knowledge has become to a great extent antiquated.

Both the Ayurvedic and the Unani systems unfortunately suffer from a lamentable lack of originality, so far as the teaching of pure science is concerned. The deplorable practice of accepting the ancient books as the last word on the subject has brought about stagnation, and made Indian medical knowledge almost stationary. By an abject submission to some out-of-date ideas and an implicit acceptance of old authorities, the Indian systems, ignore that medical science has undergone a complete revolution as a result of new discoveries. If the Indian sciences are to maintain their existence and to advance with the Western science, they must incorporate all the modern researches of the West and re-adopt them for their own use.

There should be co-operation among Vaids and Hakims so that any additional knowledge gained may become the property of all, and be not allowed to perish with the death of the discoverer. Only systematic collection and examination of statistics and advertisements of various kinds of medicines mislead the suffering and the afflicted. There must be recognised examination, fixing a minimum standard for the qualifications of Vaids and Hakims, so that incompetent quacks should not set themselves up as medical practitioners to catch unwary patients.

Unless unregistered practitioners are prohibited by statute from carrying on medical profession, the public cannot be safe from being entrapped by such quacks with impunity, as there is utter ignorance of the legal right to claim damages for injury caused to health by wrong treatment.

Lastly, there should be an effective guarantee that druggists supply pure and unadulterated articles, strictly according to prescriptions, and this can be achieved by supervision of druggists' shop.

The present state of affairs is that the Western doctors treat the Indian sciences as antiquated and worthless, while the Indian physicians treat the Western sciences as somewhat undesirable and useless innovations. Both should recognise that so far as old medicines and prescriptions are concerned, the Indian sciences possess them in plenty, and have demonstrated their efficacy. But the Indian science of medicine and surgery is professedly antiquated, and has admittedly not kept pace with the advance of the European science. Only a proper co-ordination

between these different systems can help to make a valuable contribution to the advance of human knowledge and be of everlasting benefit to humanity.

MEDICAL PRACTICE IN GERMANY

The German laws governing medical practice are designed to suit German condition. They might very well not suit a country with a different political regime. A German doctor probably has less individual freedom than his professional brethren abroad. The medical profession as a whole, however, has more freedom, independence, responsibility, and autonomy in Germany than in any other country. At any rate, that is the opinion of its members.

Moreover, this development has been desired by German medical practitioners themselves for some time. Long before 1933, when the National-socialist administration came into power, the leaders of the profession asked legislature for a system of statutory regulation very much on these lines. As long back as 1882 the profession requested the Government to take doctors out of the laws regulating the conduct of trades and to frame a special code for the medical profession laying down its rights and duties according to the peculiar conditions of medical practice. It is rather surprising that until 1933 doctors should, at any rate in law have been classed as tradesmen. The profession naturally regard this humble status as unreal and unsatisfactory. In actual practice, of course, a considerable distinction was made between doctors and other persons who were legally regarded as tradesmen. The profession made rules for its own internal discipline, and its members kept to them. Nevertheless, they had no professional status of their own, and for several years up to 1933 they were liable to pay trader's tax. Until 1885 they had possessed no legal or public status at all, and their professional and representative bodies had all been private. They therefore, strongly desired a State-recognised organization to which all doctors should be obliged to belong, and which should possess the authority that would enable it to discipline its own members and represent them in dealings with the Government and the social insurance administration. That wish has been realized in the Reichsarztekammer, or German Medical Chamber.

THE "G. M. C."

Apart from the numerous purely scientific societies, there is now only one professional association of medical men: the Reichsarztekammer or German Medical Chamber. It absorbed the existing provincial chambers.

The rights and duties of medical practitioners have been laid down by the great code known as the Reichsarzte ordnung, the Magna Charta of the German medical profession. This statute expressly states that medical practice is not a trade. A German medical practitioner now fulfils the public duty, imposed on him and defined by statute, but he is none the less member of a free profession. Unless he holds a special appointment he is neither an official nor an employee. Individual doctors, like the medical profession as a whole, are charged with a duty to the public health. They are private persons, but are obliged by law to serve the State and the people. By this obligation their status is considerably raised and their rights are much enlarged.

The position of the German medical profession may seem a peculiar one, but in our opinion it corresponds to the realities of medical practice in our country. We do not approve of a system by which all doctors are officials of the State and paid by the State, as they are in many countries. On the other hand we do not think it at all a good thing that they should be "private persons" to the extent, say, that tradesmen are. They must accept certain limitations for the general good of the community, but they must none the less make their own living. The State is able, as it must be, to exercise authority over them at need, but it cannot give them definite orders like officials or employees. It acts through the Reichsarztekammer, which is the only officially recognized corporate body of the profession and is familiar with its peculiar conditions and requirements.

ADMISSION TO PRACTISE

Before he can use the title "doctor" in Germany a person must possess a qualification recognized by the law. To use the title without qualification is an offence against the law. Unqualified persons are allowed to practise medicine subject to restriction, for the exercise of the healing art is still, unfortunately, free to all in Germany. There is ground for hope

that it will soon be very strictly limited. The medical man studies at a university, passes his examinations, and then has to serve for a year (Medizin alpraktikantenj ahr) in an approved hospital before he gets his diploma and is a full fledged doctor entitled to practise. The medical curriculum is laid down by law and is uniform over the whole of Germany. The Ordinance sets aside the classes of persons who may not hold a diploma even if they could succeed in passing the examination. A person may not become qualified if he does not possess fully rights of citizenship, if he has been convicted of a serious offence against the law, or (if a doctor) he has been declared by a medical disciplinary tribunal to be unfit to practise; or if on account of physical defect, of mental or physical incapacity, or of some addiction, he is not fit to be entrusted with medical practice. An existing qualification may be revoked on any of the above grounds. Jews are admitted to qualification subject to a limitation on numbers corresponding to the number of Jews living in Germany. Doctors who have their qualifications cancelled are not allowed to go on practising, even as quacks.

Qualification is granted and revoked by authority of the Government. A holder of a foreign qualification may be permitted by the Minister of the Interior, after hearing the opinion of the Reichsarztekammer, to practise medicine in Germany and he then has the same rights and duties as a German doctor. This permission can be withdrawn. Many foreign medical practitioners make use of the provision to carry out special post-graduate studies in Germany, or to learn special methods of research and treatment.

The Ordinance lays down as the most important of the doctor's general duties that he should practise his profession conscientiously and show himself, both in his professional and private life, to be worthy of the respect and confidence which his calling should command. His professional duties are detailed in regulations made by the Reichsarztekammer with the approval of the Minister of the Interior. The chamber has also promulgated a scale of fees which has been approved by the Minister and applies all over the Reich. Maximum and minimum figures are laid down, and the maximum may only be exceeded by written agreement between the doctor and the patient, or with the express permission of the chamber. In legal proceedings where the amount of fee is in dispute the evidence of the chamber alone is admissible on the quantum of the fee, and is conclusive in the absence of a special reason to the contrary.

A Medical Fuhrer

The constitution and duties of the chamber are laid down in the ordinance. The chamber includes all the medical practitioners in the country except members of the military medical service, even Government medical officers and university teaching staff. It enjoins on them a common task and in return safeguards their rights. At the head of the profession stands its Leader, the Reichsarztefuhrer, who is appointed and dismissed personally by Herr Hitler, the Fuhrer and Chancellor of the Reich, and on that account occupies a very powerful and important position. He has wide powers of regulation, and his orders are binding on medical practitioners.

All members of the medical profession are bound to put their services at the disposal of the nation for the maintenance and improvement of the health and racial vigour of the German people. The chamber may make special regulations allocating various duties under this general heading. It is also the national advisory body on the medical matters, and must assist the provincial executives, the local authorities, the social insurance department, and the National Socialist Party and the executive council in all matters affecting the medical profession and public health. All those bodies must, on their side, work in close co-operation with chamber, and take its opinion before deciding any matter of importance. The medical profession, therefore, has an equal standing with the leaders of the State and party, and shares their rights and duties; it is an integral part of the great national organisation for the care of public health.

In the administration of the public welfare service which is in the hands of the local authorities and provides for the needs of persons of moderate means who are outside the scope of social insurance, the Ordinance lays down the principle of free choice of physician. The chamber alone can contract with a body administering public welfare, and it prescribes the conditions of participation in the service and ensures the adequacy of treatment.

OTHER FUNCTIONS OF THE " G. M. C."

The chamber maintains the standard of professional behaviour in two ways: by the disciplinary powers which are possessed by its various departments, and which are exercised without any formality of procedure; and by the proceedings of the professional disciplinary tribunals. A doctor can be punished by warning, reprimand, fine, temporary or permanent exclusion from certain kinds of practice, or a declaration that he is unfit to continue in practice, in which event his diploma must be withdrawn and he is no longer permitted to practise. The procedure of the tribunals is carefully regulated. Charges are heard at the central medical court. The judges are lawyers and are assisted by medical assessors; the members of the court are appointed and not elected. The usual ground of a charge is an offence against the professional code.

Other important functions of the chamber are the supervision of medical education and post-graduate study. Every doctor is obliged to take a course of post-graduate study every five years. Facilities for this work are very complete in Germany, and their ramifications embrace every aspect of general and special medical practice. The chamber also regulates the distribution of medical practitioners over the territory of the Reich, and may ordain, with the consent of the Minister that no doctor may set up in practice in a given area without its permission. Finally, it may establish insurance and benevolent schemes for medical practitioners and their families.

The organization of the chamber is very simple. The original provincial chambers have become regional branches of it, and no longer have any independent legal status. They are subdivided into local medical associations, one of which is to be found in every town or district. The teaching staff of the universities and the medical officers of central departments and local authorities are represented on them. The president of a provincial chamber or of a local association, is appointed and dismissed by the central chamber from panels submitted by the members. The local chambers are assisted by advisory committee but these have no power of decision, that is vested in the person of the local head. The central chamber is under the supervision of the Minister for the Interior, who also controls the procedure of the medical tribunals. He may veto any regulation or decision of the chamber which conflicts with the law or with the policy of the executive, but naturally he cannot interfere with the jurisdiction of the medical tribunals.

IMPROVING INDIA'S PUBLIC HEALTH

The total municipal public health expenditure in India during 1935-36 was over Rs. 4½ crores in an income of about Rs. 18½ crores, and, for individual municipalities, ranged from 16 per cent. to 41 per cent. of their total incomes, whilst in the case of district boards the figure was about 2 to 7 per cent. with a total expenditure of over Rs. 1 crore in an income of Rs. 19 crores. Expenditure on the three items of conservancy, water supply and drainage formed the bulk of public health expenditure, in urban areas the percentage of the total varying from 53 per cent. to nearly 93 per cent. In rural areas, the corresponding figures varied between 26 and 76 per cent. of the total.

This information is given by the Public Health Commissioner in his latest annual report.

The provision of a sanitary environment, says the Public Health Commissioner, forms the foundation on which alone the superstructure of public health can safely be built. The supply of wholesome water, efficient removal and disposal of refuse and nightsoil, the suppression of nuisances, public cleansing, improved housing and the inspection of food supplies—these are some of the basic requirements of a community if it is to maintain a reasonable standard of health.

In the seventies of the last century when an era of sanitary reform was inaugurated in England by the provision of water-supplies and sewerage systems to urban areas, the idea was ridiculed as "a policy of sewerage, an affair of mains and drains." Both in their immediate and remote effects, however, these

comprehensive programmes of sanitary works have had a profound effect on the health of the country. Cholera which had repeatedly caused havoc during the previous four or five decades disappeared altogether whilst the prevalence of typhoid fever has been reduced to negligible proportions. During 1871-75 the annual mortality from typhoid fever per million living persons was 371, by 1926-30 the figure had fallen to 9.

Protected Water Supply

In India, too, the beneficial effects of introducing protected water-supplies are visible in a number of towns in Bombay Presidency where the death-rates from cholera, dysentery and diarrhœa fell to about a third or even less in many areas.

There can be little doubt, says the Public Health Commissioner, that, if local bodies devoted the necessary funds towards the provision and maintenance of protected water-supplies, they would obtain more than an adequate return in terms of better health for the populations under their care.

At present, in this country, piped water-supplies are almost exclusively confined to urban areas. Out of 1,298 towns, only 250 or about 19 per cent. have been so far equipped with this primary public health necessity. It must be added, however, that nearly 52 per cent. of the total urban populations of India now enjoy the amenity of a piped water-supply. Gradual, but slow progress is being made, but unfortunately instances can be cited where local authorities fail to maintain their installations in efficient working order,—a deplorably short-sighted policy.

Water-Supplies for Village—The question of village water-supplies has been the subject of recent investigations. From the information provided by Provincial Governments, at the instance of the Government of India, it appears that in at least 30,000 villages the water-supply is either situated at such a distance as to cause considerable inconvenience to the inhabitants, or the supply is totally inadequate to meet their needs, particularly in the hot weather. In one province alone the number of villages so situated with regard to water-supply, numbered over 13,000.

Block grants made by the Government of India for rural reconstruction have, to some extent, stimulated the improvement of water-supplies and other sanitary works in the rural areas during the past few years, but much more must be done in this direction before sanitation of the villages comes up to a standard which should be considered as the minimum essential for a healthy life.

Markets and Slaughter Houses

The provision of markets and slaughter houses and their sanitary supervision form an important function of local authorities, both urban and rural.

But a great deal, still remains to be done before it can be said that satisfactory progress has been made. Even where markets of a reasonably sanitary standard are in existence, the local authorities concerned frequently fail to prohibit the sale of food in unauthorised places and take no steps to prevent food contamination.

With 89 per cent. of the population of the country living in villages, rural health, says the Public Health Commissioner, is a matter of vital importance. But the rural health problem is one which admits of no easy solution and in consequence it has been found useful to try out experimental schemes in limited areas. So far, most of these schemes have been assisted by generous grants from the Rockefeller Foundation and "Health Units", as they are called, have been working for some time past in Madras Presidency, the United Provinces and in Delhi, whilst further "Units" will, in all probability, be shortly started in the provinces of Bombay and Bengal.

Rural Health Problems

These centres serve the purpose of testing out methods of rural health administration and of arriving at probable estimates of cost, while they also afford excellent opportunities for the field training of public health workers and students.

But rural health problems cannot be solved by public health measures alone and no scheme for rural development can be considered adequate unless it provides for a many-sided attack on the physical, social, economic and educational aspects of village life. The suggestion is, therefore, made that a Rural Development Council should be formed at the head-

quarters of each province, with a district Council for each district. On these Councils there should be representatives of the Public Health, Medical, Education, Industries, Agricultural, Co-operative and other departments of Government, so that co-ordinated action can be taken. A percentage of provincial revenues, says the Public Health Commissioner, should be specially set apart for rural improvement and made available to each district in the form of grants-in-aid on the condition that the latter contributes a share from its own funds.

Stress is laid on the necessity for planning these rural ameliorative schemes over a period of years, since short-term efforts are bound to fail. Improvement of individual and communal health involves, in most cases, radical changes in methods of living, the growth of new and better community habits can often be observed only when a new generation has grown up in an environment of new ideas and new practices.

Government of India Grants

In order to help Provincial Governments in financing schemes for rural development, the Government of India sanctioned, during the past three years, two grants of Rs. 92½ lakhs and Rs. 103 lakhs respectively. The programmes of expenditure showed some variation from province to province, but everywhere public health measures claimed a large share of the money, including rural water supplies, rural sanitation and anti-malarial operations.

An important point in regard to all measures of social reform is to recognise that they are dynamic processes in which the active co-operation of the people for whose benefit the measures are adopted, is an essential element for success. In this sense the news from the Punjab is heartening.

"No less than a sum of Rs. 1,12,295," says the Director of Public Health, Punjab, "was voluntarily subscribed by 887 villages for sanitary work, and in addition, in 592 villages contributions in labour and material were made. There were some 200 more villages in which unrecorded sums of money were subscribed."

Food Adulteration

Adulteration of food is again another matter of considerable importance, which calls for attention. Unfortunately, however, in most provinces, no Food Adulteration Act is in force in rural areas and, even in urban areas, where legal provisions exist, their enforcement leaves much to be desired. In some places, 50 or 60 per cent. of the samples taken were found to be adulterated, whilst, with respect to individual articles, the percentage was even higher.

The question of the adulteration of the common articles of food was raised at the inaugural meeting of the Central Board of Health last year. The Board unanimously agreed to appoint an *ad hoc* committee to report on the legislative measures now in force in this connection in the different provinces and to suggest such additions and amendments as might be considered necessary.

School Medical Service

A school medical service is one of the most important parts of public health administration. Experience all over the world has shown that the provision made for the health of the school child, by periodical examination and the correction of defects, has proved to be a sound investment in respect of betterment of the national health. In England the school medical service was developed in 1908, and since then the benefits conferred on the rising generations have contributed in no small degree to a general raising of the nation's standard of health.

In India, unfortunately, the school medical service is one of the least developed of the public health services. In some provinces nothing at all is being done and, even in the provinces where a scheme exists, its operations are restricted and are not carried out on any uniform basis.

Enlarged tonsils and adenoids, defects of vision and dental caries are all of common occurrence. Provision for the treatment of defects discovered during medical inspections varied greatly from province to province, and in no instance could existing schemes be considered adequate.

Free Milk Supply

In some provinces attempts have been made to supplement the diet of poorly nourished school children by the free supply of milk or of midday

meals, but these have been tried in very limited areas only.

In order that mal-nutritional defects, now known to be common, should be corrected and that systematic medical care of school children should be taken, rapid development of school medical services on an adequate scale is urgently required all over the country.

So far as industrial hygiene is concerned, since the Royal Commission on Labour in India issued its report nearly seven years ago, increasing attention has been paid, says the Public Health Commissioner, to the conditions of factory labour by governments, the legislatures and by the general public and action has been taken in many directions to implement the recommendations made in the Commission's Report.

But the evils attendant on concentration of factory labour and the consequent development of slums exist in more than one of the large industrial centres of this country.

Housing

Interesting details are given of the housing conditions in several provinces.

From details available it is clear that with few exceptions and then only in isolated cases, the housing problem has nowhere been given anything like adequate attention. The responsibility for action lies primarily on the provincial governments and on the local authorities. It is fairly obvious that no immediate large-scale attack is possible, partly because of the great expenditure involved and partly because, as in the case of other social ameliorative measures, a housing campaign can only be assured of success when it is supported by an enlightened public opinion. In the average village, the Indian home is kept scrupulously clean in accordance with traditional ideas of hygiene, but the villager like the agricultural peasants of other and more advanced countries, sees nothing objectionable in the accumulation of refuse in the vicinity of his house nor is he usually aware of the danger of the pollution of soil and water. Radical improvement in present conditions will, therefore, only follow when the people become sufficiently educated to demand a higher standard of communal hygiene, both in urban and rural areas.

Health Education

Public Health Departments in India have recognised the importance of health education of the people and by means of posters, leaflets, health exhibitions, health songs, dramas, magic lantern lectures, cinema and broadcast talks the message of health is being consistently carried to an ever widening circle of the public. In some provinces, demonstration vans and motor lorries fitted with posters, lanterns, screens and projectors have enabled work to be extended to large numbers of villages.

Public Health measures, says the Public Health Commissioner, can be successful only in so far as they secure the active support of an enlightened public opinion. Public health administration should, therefore, be decentralised as far as possible. This policy has been in force in India for a quarter of a century past and the principle received statutory sanction in the Government of India Acts of 1919 and 1935, and health services have also been in direct touch with the people through their local authorities.

Central Health Board

Experience has, however, indicated the necessity for continued co-ordination of effort, not only for the exchange of ideas, but also for the formulation of reasonably uniform lines of development. To serve these purposes a central consultative body, the Central Advisory Board of Health, was formed last year, on which are represented the Health Ministers of all the provinces assisted by their principal health and medical advisers. The machinery for co-ordinating public health work in India has thus been established and it may perhaps be anticipated that the coming years will witness increasing progress in every phase of public health activity.

But the development of health personnel in the provinces has been by no means uniform. Nearly half the districts and three quarters of the municipalities are still unprovided with qualified health officers. The Central Board of Health recognised the great importance of employing qualified health staffs in every urban and rural area, and one of its resolu-

tions recommended that, wherever necessary, provincial Governments should take legislative sanction for enforcing the employment of health officers by local bodies and for securing control over the recruitment and conditions of service of the health officers employed by local authorities.

MATERNITY AND CHILD WELFARE WORK IN INDIA

Maternity and child welfare work has made notable advances since its inception as a national movement in India in 1918, but there are still large gaps in the services, particularly in the field of obstetrics, which must be filled before material improvement in the health of the nation can be assured.

This is what the Public Health Commissioner says in his latest annual Report on the subject.

Notable advances include the establishment of training schools for health visitors in Bombay, Madras, Delhi, the Punjab and the Central Provinces and the institution of a course at the All-India Institute of Hygiene and Public Health, Calcutta, for a Diploma in Maternity and Child Welfare for medical women. In addition, some 800 welfare centres have been opened in urban and rural areas where mothers can receive individual instruction and advice on the care of their own health and the health of their children.

Nevertheless public opinion has not yet been sufficiently roused and such advance as has been made is largely due to the pioneer efforts of voluntary societies, whose resources, both in respect of funds and of personnel are naturally limited.

Special Maternal Mortality Survey

Sufficient information is now available, as the result of special inquiries, to show that maternal mortality in India is probably five or six times as high as that of England.

A statistical survey of maternal mortality, financed by the Indian Research Fund Association, was started in Calcutta. The survey was undertaken primarily to collect information on which the preventability of the maternal deaths could be assessed, to estimate the relative urgency for better antenatal care, better midwifery and better post-natal care and to enable recommendations to be made for the extension and improvement of existing services.

The rate of maternal mortality, it was found, was as high as 24·5 per 1,000 live-births, an enquiry instituted by Sir John Megaw in 1932 in the rural areas of the country also gave much the same figure. The maternal mortality rate in England and Wales was 3·8 in 1936, and, when it is remembered that a high death-rate implies a correspondingly high rate of sickness, the extent of suffering and invalidism which child-bearing causes in India, can well be imagined.

Inadequate Midwifery Services

Defects in maternity and child welfare work are the greatest in regard to midwifery services.

Information relating to the provision of midwifery services in Bombay Presidency shows that about 70 per cent. of the confinements in Bombay City were conducted in institutions and 18 per cent. in certain rural towns were conducted by skilled attendants. During 1936 for 130,000 urban and 600,000 rural births there were respectively 210 urban hospitals with about 2,500 obstetrical beds and 61 rural hospitals with nearly 200 beds. The number of women employed in these hospitals include 88 medical graduates, 73 licentiates and 625 midwives. For domiciliary midwifery, 14 medical women graduates and 12 licentiates are employed along with 149 midwives. In Bihar with nearly 30,000 registered births in towns and over 11 lakhs in villages there are 48 urban institutions with 253 maternity beds and 32 rural hospitals with 12 beds. Seventeen medical women graduates and 48 licentiates are employed in connection with the institutions in addition to 87 midwives. A total of 79 salaried midwives are engaged in domiciliary midwifery in Bihar.

These figures represent the upper and lower limits of midwifery services in the provinces, both

indicate the grave inadequacy of these services and the extent to which both hospital and domiciliary midwifery staffs require to be augmented.

Maternity Homes

Apart from beds for abnormalities arising during pregnancy, labour and the lying-in period, beds are also required for women whose domestic surroundings are unsuitable.

Further, increasing numbers of women are now seeking admission to hospitals for confinment, because of their amenities, and this demand is being met to a certain extent by the establishment of maternity homes, which are often unsatisfactory from the point of view of equipment and skilled attendance. The movement is, therefore, not without risk, and some control of the standards and methods of these institutions would, says the Public Health Commissioner, seem to be necessary if the lives of mothers are to be suitably safeguarded.

During the past few years Provincial Governments have introduced legislation designed to improve the training of midwives, nurses and health visitors. These Acts should give a much needed stimulus to the movement towards better midwifery and should also ensure the early review of existing conditions, although it must be added that all have not yet been enforced. The most serious defect in many of these Acts is the absence of any clauses dealing with the prohibition of practice by the unregistered.

Maternity and Child Welfare Services

Maternity and child welfare schemes are based on a system of home visiting, of ante-natal and post-natal clinics and centres, where infant and pre-school child consultations are conducted and classes can be arranged for the mothers. Each year shows a diminution in the number of so-called welfare centres staffed by untrained workers. The primary objects of maternity and child welfare work are to educate parents in the nature of a healthy race and to prevent disease and these objects can be achieved only by the employment of trained health workers.

The first training school for health visitors was established in Delhi in 1918 under the voluntary auspices and now seven are at work in India, two being government institutions. Approximately 60 to 70 students are trained each year, a numebr gravely insufficient to meet the existing needs. As a matter of fact, only about 300 health visitors are at present employed in the whole country, whilst the total births annually number about ten millions.

The Health Visitor

The trained health visitor is the vital unit in any maternity and child welfare scheme, just as home visiting is the basic service for which she is responsible. If home visiting is to achieve success, it must be systematic, intensive and carried out with sympathetic understanding. It is unfortunate, therefore, that the shortage of qualified health visitors, combined with vague and erroneous ideas on the part of employing authorities concerning a health visitor's duties, frequently leads to her energies being dissipated over too wide an area.

The contributions hitherto made by voluntary organisations and individuals have been of great value but the opinion is expressed that a stage has now reached when responsibility for the training of workers and the technical direction of the work should be assumed by government departments.

TOLL OF EPIDEMIC DISEASES IN INDIA

Of a total of nearly 6,400,000 deaths or 23 per mille in British India in the year 1936, which is the latest year for which consolidated figures are available, approximately 160,000 or 0·6 per mille were, according to the Public Health Commissioner, from cholera, 105, 000 or 0·4 per mille from small-pox, 13,000 or 0·05 per mille from plague, 3,600,000 or 12·7 per mille from "fevers", 280,000 or 1·0 per mille from dysentery and diarrhœa, 490,000 or 1·8 per mille from respiratory diseases, and 1,730,000 or 6·1 per mille from other causes.

Deaths from plague during the year were the lowest on record since 1896 when plague first came into India. Of the provinces, the N. W. F. P., Delhi, Orissa, Assam and Ajmer-Merwara were completely free of the disease; the United Provinces was the worst affected, recording about 56 per cent. of the total mortality in British India.

Cholera mortality was felt during the year, by about 57,000. The decrease in incidence was common to most provinces, the important exception being Bengal where the mortality was 1·5 p.m. or 25 per cent. higher than that of the previous year.

Reservoir of Cholera Infection

India, however, unhappily still continues to live up to its evil reputation of being the important world reservoir of cholera infection. The reasons, it is stated, for this comparative failure to effect satisfactory control of the disease in spite of vigorous campaigns are that large areas of the country do not yet possess any local public health staffs; secondly, even where health staffs exist, their personnel is often numerically inadequate to cope with the large populations entrusted to their care, widely scattered as the people are in numbers of small villages, further, without safe water supplies and an efficient system of conservancy, it is almost impossible to make appreciable pregress in the effective control of the spread of infection in rural areas.

In spite of these handicaps, however, Provincial Public Health staffs have generally done good work, particularly within recent years in the sanitary control of the numerous fairs and religious festivals, which are held all over the country. Whilst previously it was all too common for explosive outbreaks of cholera to occur at these centres and to be followed by widespread infection, the elaborate precautionary measures now generally in force, have largely been effective in preventing dissemination of the disease from these dangerous foci.

Phillipines Eliminate Smallpox

The persistence of smallpox infection and the occurrence of periodic severe epidemics in different parts of India make it clear, says the Public Health Commissioner, that although in vaccination we possess a powerful preventive weapon, that weapon has at no time, during the past, been used as effectively as it might have been. In the Phillippines, on the other hand, the rigorous enforcement of vaccination has been followed by almost complete elimination of the disease. "After vaccination of the inhabitants of the six provinces in the vicinity of Manila, which had an annual mortality of 6,000 from smallpox, the deaths from this disease were reduced to insignificant numbers. In Manila, with a population of over 250,000, not a single death from smallpox occurred in a period of seven years. More than 10 million vaccinations were performed between 1905 and 1915 without loss of life or limb, showing that vaccination in itself is practically unattended with any risk."

Condition in India

Yet there remains the deplorable fact that India recorded over 100,000 smallpox deaths during 1936 Amongst the individual provinces, Bengal reported the largest mortality, deaths numbering about 46,000 or 44 per cent. of the total recorded in British India. Compared with 1935, the increase was as high as 800 per cent.

The potency of the vaccine lymph prepared in the different laboratories in India, is high and within

recent years, an appreciable rise has occurred in the numbers of primary vaccinations and revaccinations performed by the provincial vaccination staffs, which during 1936 totalled over 11 million primary vaccinations and over 13 millions re-vaccinations. The year's total is the highest annual figure on record, except that for 1935. These figures are no doubt very large, but the population of India also approaches a total of 400 milions.

But in spite of these efforts only about 49 per cent. of infants available for vaccination in British India were successfully vaccinated during the year. This figure indicates how much remains to be done and when it noted that in Assam, Bengal, Bihar, Orrisa, and Madras the percentages are as low as 22 to 37, it is evident that the vaccination staffs of these provinces have still got a large leeway to make up, but unfortunately no Public Health Department is sufficiently manned to enable it suitably to deal with the whole of the population under its control.

Further, vaccination is compulsory only in about 75 per cent. of the towns and in less than 50 per cent. of the rural areas and the enforcement of law leaves much to be desired even in compulsory areas. Since the annual numbers of the vaccinations performed are not sufficiently large to protect the population, the enforcement of compulsory vaccination of young infants alone, says the Pubilc Health Commissioner, cannot banish the disease from India and revaccination should be done before school-age, and again between ten and twelve years of age. There can be no question that if compulsory revaccination were generally enforced, smallpox need not be serious cause of sickness or mortality.

The omnibus group of diseases included under "fevers" was responsible during the year for nearly 56 per cent. of the total mortality. It no doubt mainly consists of deaths from malaria, but it also includes large number of deaths from other diseases in which fever is a prominent symptom.

The Toll of Malaria

An estimate is made that the annual deaths from malaria in British India total 1½ millions and that about a hundred million persons suffer from this disease each year. During the past decades, cholera, smallpox and plague, the three infectious diseases which generally attract most notice, were together responsible for about 357,000 deaths each year, a figure which is less than one third of the annual toll of life taken by malaria.

The question of malaria control in India is mainly a rural problem, because not only do 89 per cent. of the people live in rural villages, but the incidence of the disease in the villages is much higher than that ordinarily found among the urban populations.

"No satisfactory general method of bringing malaria under rapid and effective control in rural areas at a cost within the means of the people, has, however, been evolved in any malarious country in the world", as the Director of the Malaria Survey of India remarks. The policy to be adopted must, therefore, be directed to such amelioration of conditions as may be practicable rather than to expensive methods of control, and with this end in view, every effort should be made, in the first place, to encourage the consumption of quinine.

Central Grant for Anti-Malaria Work

A feature of the year was the intensive anti-malaria work started in Delhi, with funds provided by the government of India with the object of eliminating, if possible, malaria from the city, so that the Imperial Capital may, apart from benefits conferred on local inhabitants, serve as an example to the rest of India, in regard to the practical application of scientific knowledge.

In addition, a special grant of Rs. 10 lakhs was given in 1935-36 by the Government of India to the Indian Research Fund Association mainly for anti-malarial work. Of this amount, Rs. 2 lakhs was sanctioned by the Association for anti-malarial work in Delhi rural areas and the balance allotted as follows:—

(a) Rs. 2 lakhs to Madras Presidency, (b) Rs. 2 lakhs to the United Provinces, (c) Rs. 1 lakh to Bengal, in each case on the conditions that an equivalent amount was sanctioned by the Provincial Government and that the expenditure on ap-

proved schemes should be spread over a period of five years, and (d) Rs. 1 lakh to the Assam Government for the Assam Medical Research Society, which is actively engaged in malaria research and is supported financially by the Provincial Government.

Exploring Cinchona Plantation Possibilities

It is estimated that India's probable annual requirements of quinine for the purpose of effective mass treatment amount approximately to 600,000 lbs. Her present consumption is only about a third of this quantity, of which nearly 110,000 lbs. are imported and 90,000 lbs. are produced in the country. Any cheapening of the cost of quinine is, therefore, dependent on a considerable expansion of India's production. Under the new constitution, cinchona is a provincial subject, but the Government of India had recently sanctioned an investigation in regard to the areas in India which would be suitable for cinchona cultivation and the cost of cultivation in those areas. This investigation has already been carried out.

There is strong evidence, says the Report, that tuberculosis, particularly of the pulmonary type, has markedly increased within recent years in certain areas. The most urgent need is the provision all over the country of a chain of tuberculosis clinics where skilled treatment and advice can be obtained from trained staffs of medical officers, nurses and home visitors, increase in the number of beds in hospitals and establishment of sanatoria for tuberculosis cases and the institution of tuberculosis colonies and settlements at a later stage.

National Anit-Tuberculosis Campaign

No national effort on these lines and of the magnitude necessary for this country can be successfully undertaken without the fullest cooperation of the people, of the Provincial Governments, local authorities and voluntary agencies. The work of voluntary organisations like the Tuberculosis Association of Bengal, has been largely responsible for the development of public opinion, particularly in large cities like Calcutta, but there is need for multiplying such efforts throughout the country. Above all, these schemes require financial support, and the hope is expressed that the recent appeal launched by Her Excellency Lady Linlithgow on behalf of "The King Emperor's Fund" will receive the generous support of every one interested in the welfare of India's people.

Leprosy Incidence

Coming next to leprosy, an estimate is given that there are no less than five million cases of leprosy, in the world and that, of this number, approximately a million are to be found in India. Fortunately, one important feature of the disease in India is that about two-thirds of the cases are relatively mild and that "in some of these mild cases the disease is of little clinical or public health importance."

In India it has been found that the incidence of the disease is highest along the eastern coast of the peninsula in the western parts of Bengal. From the eastern belt of high prevalence the disease gradually diminishes in incidence to the north and west, until a fairly wide area of comparative freedom from the disease is reached, comprising the northern half of Bombay Presidency, including Gujrat, Rajputana, the western portion of the United Provinces, the Punjab, the N. W. F. Province, Sind and Baluchistan.

Incidence is relatively higher among males than among females, the proportion being about two to one. The disease is also found generally to assume a more severe form amongst males.

The work of leprosy relief in India as in other countries, is shared by official and non-official organisations. But the problem is so vast that existing organisations have so far found it impossible to produce any very striking reduction in the prevalence of the disease.

Leprosy Clinics and Colonies

Within recent years, a considerable expansion of treatment activity has resulted from the provision of leprosy clinics in different parts of the country, but whilst present methods of treatment are of undoubted value in a proportion of cases, the leprosy problem cannot be solved by treatment alone.

While the segregation and isolation of all infective cases of leprosy, which probably, number

between 300,000 and 400,000, is not practicable, attention is drawn in the Report to the development of rural leprosy colonies as a hopeful line of preventive work in areas where the incidence of the disease is high. A new Forest Farm Colony, which is a co-operative undertaking, Government, the American Mennonite Mission and the Mission to Lepers, all being represented on the Board of Control, has already been started in the Central Provinces.

CANCER IN INDIA

Another affliction to which attention is drawn in the Report, is cancer. Until recently the general impression in India has been that cancer claims a much smaller proportion of deaths in this country than in Europe and America, perhaps because medical and public health reports generally make little mention of this disease. In order to obtain more accurate information, an enquiry was started about four years ago, under the auspices of the Indian Research Fund Association, by an examination of the records of the larger teaching hospitals.

Whilst it was recognised that hospital statistics would fail to give a correct picture of the general community incidence of a disease, this method of approach appeared to be the only one practicable. The inquiry, which extended to every province, including Burma, revealed that the age of maximum incidence of cancer in India was at least ten years earlier than in Western countries and Japan and in the case of the female generative organs, earlier by 15 to 20 years.

Cancer of the mouth is more common among males than among females and among Muslims than among Hindus. Another interesting feature is that this form of cancer has its lowest incidence in the Punjab where the habit of chewing *pan* is not so common as in other parts of India. The incidence of the disease increases as one goes eastwards and southwards.

The conclusion was reached that, if more reliable data were available, the prevalence of cancer in India would be found to be little different from that of Western countries.

Although much remains to be discovered regarding the causal factors of cancer, two facts stand out prominently. One is that the treatment of the disease, in accessible sites, gives satisfactory results if a diagnosis is made early. The other is that few cases consult a doctor at an early stage of the disease.

Though no definite campaign has so far been planned, radium is available in four or five institutions including the Lady Hardinge Medical College, New Delhi; the Radium Institute, Patna, Bihar, the Chittaranjan Seva Sadan and the Bengal Cancer Institute, Calcutta, and the Barnard Radiological Institute in Madras.

ASSOCIATION NOTES

Minutes or proceedings of Branches and Affiliated Societies intended for publication should be sent to the General Secretary of the I. M. A., Samavaya Mansions, Calcutta—EDITOR.

BENGAL PROVINCIAL BRANCH

Proceedings of a meeting held on Wednesday, the 25th May, 1938, at 7 p.m. at 67, Dharamtala Street, Calcutta.

Members present:—Dr. Subodh Datta (in the chair), Drs. B. K. Ghosh (Barrackpore), B. Banerji, T. Chatterjee (Howrah), N. N. Sinha (Howrah), B. N. Ghosh, S. K. Basu, A. D. Mukharji, K. Chakravarti, Kalipada Poi (Khulna), J. C. Banerjea, K. K. Sen Gupta, T. N. Ghosh, Jibananda Mukherjee (Howrah), M. Chatterjee (Howrah) and Satish Chandra Bose (Barrackpore).

Read a letter from Dr. P. K. Guha expressing his inability to attend the meeting.

The proceedings of the last meeting were read and confirmed.

The statement of accounts for the month of April, 1938, was inspected.

Resolved that this Association fully supports the State Provision Bill for Clinical and Bacteriological Examination, 1937, as introduced by Mr. Ranajit Pal Chaudhury, M.L.C. in the Bengal Legislative Assembly.

Resolved that a sub-committee consisting of the following members be formed to discuss ways and means to give effect to the resolutions passed at the last Bengal Provincial Medical Conference:

Drs. N. R. Sen Gupta, A. D. Mukharji, J. C. Banerjea, B. K. Ghosh (Barrackpore), T. N. Ghosh, B. N. Ghosh, and K. K. Sen Gupta (Convener).

Resolved further that the letter from the Secretary, Howrah Medical Society, regarding unqualified medical practice, be considered by the above sub-committee.

The letter from Dr. Satyendra Kumar Chatterjee, Burdwan, was placed before the meeting and it was resolved that the Secretary be authorised to send a suitable reply to it.

Resolved tha the letter dated 19-4-38 from the General Secretary, Indian Medical Association, forwarding the proceedings of the last Central Council Meeting held at Delhi, be filed.

The resolutions passed at a special general meeting of the Calcutta Branch of the I. M. A. held on 25-4-38 were placed before the meeting.

Resolved that a special general meeting of the Bengal Provincial Branch of the Indian Medical Association be called to consider the same and the situation arising out of the recent formation of branches of the I. M. A. in Calcutta which have been given direct recognition by the General Secretary, I. M. A.

The letter No. 2644 dated 17-5-38 from the General Secretary, Indian Medical Association, intimating that "the realisation of all arrears of payment from members who have transferred their membership to some other branch should be a matter to be settled in the first instance between the branches concerned", was placed before the meeting. As this Provincial Branch does not recognise the new branches in Calcutta for reasons already intimated and has no hold over them and as the General Secretary has given them direct recognition, it was resolved that the General Secretary be requested to take steps for the collection of arrear subscriptions from the defaulting members who have joined newly formed branches before giving them any privilege of membership by way of direct affiliation.

Resolved further that a copy of this resolution be forwarded to the General Secretary for his information and necessary action.

Resolved that a letter of appreciation be sent to Mrs. S. N. Mallik, Calcutta, for her kind and generous donation of Rs. 80,000 for the S. N. Mallik Maternity Home and Health Unit at Singur, Hooghly.

With a vote of thanks to the chair, the meeting came to a close.

SUBODH DATTA, *Chairman.* K. K. SEN GUPTA, *Jt. Hony. Secretary.*

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Proceedings of a meeting held on Wednesday, the 27th July, 1938, at 7-30 p.m. at 67, Dharamtala Street, Calcutta.

Members present:—Dr. J. C. Banerjea (in the chair), Drs. P. C. Roy, B. N. Ghosh, A. D. Mukharji,

Kali Pada Poi (Khulna), Jibananda Mukherji (Howrah), K. C. Chakraborty, A. C. Bose, (Darjeeling), P. K. Guha, Subodh Datta and K. K. Sen Gupta.

1. The proceedings of the last meeting were read and confirmed.

2. The statement of accounts for the month of June, 1938, was inspected.

3. The letter dated 1-7-38 from the Hony. General Secretary, Indian Medical Association, re: nomination of President and Vice-Presidents for the ensuing year, was placed before the meeting. Resolved that the nominations received from the district and local branches be forwarded by the Jt. Hony. Secretaries of this Provincial Branch to the General Secretary.

4. Resolved that this Provincial Council endorses the idea of amalgamation of the All-India Medical Licentiates Association with the Indian Medical Association, as suggested by the Secretary, Tinnevelly District Medical Association, Palamcottah.

5. Regarding the disaffiliation of the Ronaldshay Medical School of Burdwan by the Bengal Council of Medical Registration, it was resolved that the consideration of the matter be postponed for six months in view of the fact that the said school has been granted affiliation for the current session.

6. The letter from Delhi Medical Association regarding Indian Medical Degrees Act, was placed before the meeting. Resolved that a copy of the relevant resolution passed at the last Bengal Provincial Medical Conference be forwarded to them.

7. The *ad interim* report of the sub-committee appointed to discuss ways and means for giving effect to the resolutions passed at the last Bengal Provincial Medical Conference, was considered and adopted.

8. The report of the Indian Income-Tax Amendment Bill Sub-committee was approved and it was resolved that a copy of the report be forwarded to the Hony. General Secretary, I. M. A.

9. The consideration of the venue for the next Provincial Medical Conference was postponed till the next meeting.

With a vote of thanks to the Chair, the meeting terminated.

BARISAL MEDICAL UNION

At the Second Annual General Meeting of the Union held on the 27th and 28th August, 1938, the following were elected to the Executive Committee:—

President—Dr. Jatindra Nath Sen, L.M.S.

Vice-President—Dr. Harabilash Chatterji, M.B., Capt. I.M.S. (Retd.).

Hony. Secretary—Dr. Sudhir Chandra Roy, M.B.

Hony. Jt. Secretary—Dr. Sudhangsu Kumar Sen Gupta, L.M.F.

Members—Drs. W. A. Browne, F.R.C.S., Civil Surgeon, Upendranath Chakraverty, M.B., Treasurer Amalkrishna Ghosh, B.Sc., M.B., Jatindra Chandra De, L.M.F., M. Ahmed, M.B. M. Samaddar, L.M.F. Radhaballav Karmakar, M.B.

DACCA BRANCH

A meeting of the I. M. A., Dacca Branch, was held on 19-3-38 at 6-30 p.m. in the Jagannath Intermediate College.

Members Present:—Drs. S. K. Mitra, S. C. Roy, N. Banerjea, J. K. Sen Gupta, C. C. Das Gupta, G. Ganguly, K. C. Dhar and M. L. Boral.

Dr. S. K. Mitra, Vice-President presided.

1. Proceedings of the last meeting were read and confirmed.

2. Resolved that the following gentlemen be elected office-bearers of the Central Council for 1938-39:—

President:—Sir Nilratan Sircar, Kt.

Vice-Presidents:—Drs. N. R. Sen Gupta, C. C. Basu and Capt. P. B. Mukherjee.

3. Read General Secretary's letter and resolved that the Secretaries be authorised to write to the Bengal Provincial Branch for financial help to this branch.

After a vote of thanks to the chair the meeting terminated.

N. Banerjee, *Jt. Secretary.* S. K. Mitra, *President.*

* * *

A meeting of the members of the medical profession of Dacca and Narayanganj was held under

the auspices of the I. M. A. Dacca Branch on 19-8-38 at 7 p.m. to consider the lowering of medical fees by the Indian Insurance Companies and the following resolutions were passed:

1. That the introduction of the reduced scale of Medical Examination fees below Rs. 8/- by Indian Life Insurance Companies is unjustified and totally unreasonable under the prospect of a brighter future promised by the introduction of the new Insurance Bill which markedly reduces the expense ratio of life insurance companies.

2. That the reduced fees are totally inadequate for the responsible duty which the medical examiner is called upon to perform demanding as it does on one side a high degree of efficiency in diagnostic technique and prognostic significance, and on the other unflinching honesty and deep sense of moral obligation.

3. That this meeting requests that the members of the medical profession should resist this reduction of fees and to decline to accept for examination cases of life insurance where the fee is lower than Rs. 8/- for a policy of Rs. 1000/-.

4. That the Secretary of the I. M. A. be authorised to forward the copies of the above resolutions to the offices of the Insurance Companies doing business at Dacca.

5. It is further resolved that the above resolutions be circulated amongst the medical practitioners of Dacca and Narayanganj and also be sent to the Press.

N. BANERJEE, *Jt. Hony. Secretary,* N. P. NEOGY, *President.*

PUNJAB PROVINCIAL BRANCH

At a very largely attended meeting of the Provincial Council of the Indian Medical Association held on 1st August, 1938, at Lahore, under the presidentship of Dr. K. R. Chaudhri F.R.C.S., the following resolution was passed:—

In view of the fact that the Hon'ble Minister of Education while replying to the question No. 3108 asked by the Leader of the Opposition, Dr. Gopi Chand Bhargava, M.L.A., referred to the independent practitioners as "Tom, Dick and Harry", the Provincial Council strongly resents these uncalled for remarks and as a protest drops the proposal of leading a deputation to the Hon'ble Minister of Education Mian Abdul Haye, for the purpose of presenting schemes for re-organisation of Medical Relief to the masses and allied matters, until and unless he publicly withdraws these offensive remarks.

AMBALA BRANCH

The Indian Medical Association, Ambala Branch. Ambala Cantt., strongly condemns the remarks passed by the Hon'ble Minister for Education, Punjab, against the independent practitioners labelling them as "Tom, Dick and Harry" in reply to the question No. 3108 put by Dr. Gopi Chand Bhargava at the floor of the House and it further demands from the Hon'ble Minister to withdraw his offensive remarks publicly. (2) Resolved that the copies of the above be sent to the press, the Hon'ble Prime Minister and the President, Legislative Assembly.

AMRITSAR BRANCH

The following resolution was passed by the Amritsar Branch in its general meeting held on 14th August last:

In view of the fact that the Hon'ble Minister of Education while replying to question No. 3108 asked by the Hon'ble the Leader of the Opposition Dr. Gopi Chand Bhargava referred to the independent Medical profession as "Tom, Dick and Harry", this meeting of the Amritsar Branch of the Indian Medical Association strongly resents these uncalled for remarks and wholeheartedly approves of the action taken by the Provincial Council of the Indian Medical Association in dropping the idea of taking a deputation to the Hon'ble Minister of Education for the purpose of presenting a scheme for reorganisation of medical relief to the masses till the time the above-mentioned objectionable remarks are withdrawn.

It is further resolved to send copies of this resolution to the Premier, the Minister of Education, the Provincial Council of Indian Medical Association, the Central Council of the Indian Medical Association and the press."

FAQIR CHAND SHORIE.
Secretary.

U. P. PROVINCIAL BRANCH

Proceedings of a meeting of the Working Committee of the I. M. A., U. P. Provincial Branch, held on Monday the 15th August 1938 at 5 p.m. in the Garvie Medical Library rooms, Meerut.

Members present:—Drs. S. Halder of Muzaffarnagar, Vice-President in the chair, R. C. Mitter (Meerut), S. B. Vyas (Meerut), R. N. Bose (Meerut) and Bhupal Singh (Meerut).

1. The Proceedings of the previous meeting were confirmed unanimously.

2. The accounts for the months of June and July, 1938, were put up. Resolved unanimously that the accounts be passed.

3. Election of the Provincial President for 1938-39 was considered.

The following nominations were received from the branches:—

Drs. Bhupal Singh of Meerut, Rai Bahadur R. N. Banerji of Allahabad, G. N. Vyas of Agra, Suraj Mal Sarin of Dholpur and A. H. Siddiqui of Lucknow.

Resolved that there being no such name as Dr. A. H. Siddiqui in the list of members of the I. M. A. in U. P. and Drs Bhupal Singh, R. N. Banerji and G. N. Vyas having withdrawn their names, Dr Suraj Mal Sarin of Dholpur is declared elected unanimously President of the I. M. A., U. P. Provincial Branch for 1938-39.

4. Question of dates for the V. U. P. Medical Conference was considered:

Resolved that 22nd and 23rd October 1938, the dates for holding the Vth U. P. Medical Conference at Agra as suggested by Capt. K. P. Bagchi, the Chairman of the Reception Committee, be approved.

5. The Programme of the Conference was then considered:

Resolved that the programme be approved, except that the Reception Committee be requested to drop item No. 3 on the 22nd October, *i.e.* "the Prayer" between 12-30 p.m. to 12-40 p.m. and that the next item may begin at 12-30 p.m.

6. The question of appointment of a Sub-Committee to draft resolutions for the Agra Conference was considered:

Resolved that the following gentlemen should form that Sub-Committee:—

Drs. Bhupal Singh, R. N. Bose, R. C. Mitter and S. B. Vyas.

Further resolved that the report of the Sub-Committee should be submitted to the Provincial Secretary by the 7th of October at the latest, so that the same might be considered by the Working Committee at its meeting immediately afterwards.

7. The Election of an Auditor to audit accounts for 1937-38 was taken up:

Resolved that Dr. S. Halder, the Vice-President, be authorised to appoint an Auditor to audit accounts for 1937-38, which should be put before the Working Committee meeting early in the 2nd week of October, 1938.

8. Circular No. 4 of Dr. Kunj Behari Lal Verma, U. P. Provincial Secretary of A. I. M. L. Association was considered:

Resolved that the Provincial Secretary be asked to take suitable steps to counteract this propaganda.

9. The supplementary budget was presented by the Provincial Secretary and passed.

With a vote of thanks to the Chair the meeting dispersed.

R. N. BOSE, Capt., M.B.,
Hony. Provincial Jt. Secretary.

S. HALDER,
Chairman

PROVISIONAL PROGRAMME OF V U. P. MEDICAL CONFERENCE, AGRA

October 22, 1938—

9 A.M. to 10-30 A.M.—Meeting of the Provincial Council.
10-30 A.M. to 12-30 P.M.—Interval.
12-30 P.M. to 12-40 P.M.—Prayer.
12-40 P.M. to 2-30 P.M.—

(i) Opening of the Conference.
(ii) Speech by the Chairman, Reception Committee.
(iii) Address by the President.
(iv) Letters and telegrams, if any.
(v) Election of the Subjects Committee.

2-30 P.M. to 5 P.M.—Scientific Section Meeting.
5 P.M.—Photo and Tea Party.
7 P.M. to 8-30 P.M.—Subjects Committee meeting.
8-30 P.M.—Dinner.
10 P.M. onward—Subjects Committee meeting.

October 23, 1938—

8-30 A.M. to 10-30 A.M.—Scientific Section meeting.
10-30 A.M. to 12 NOON—Annual General meeting of U. P. Provincial Branch of the I. M. A.
12 NOON to 2 P.M.—Interval.

2 P.M. to 5 P.M.—Open session of the Conference.
5 P.M.—AT HOME by members of I. M. A., Agra.

* * *

Dr. Bhupal Singh, B.A., M.B., Hony. Provincial Secretary, I. M. A., U. P. Provincial Branch, issued the following statements refuting certain allegations made by Dr. K. B. L. Verma, the U. P. Provincial Secretary of the A. I. M. L. Association:

MY DEAR DOCTOR,

Yo may be aware that a regular propaganda of vilification against the I. M. A. is being persistently carried on by some of the Licentiates of U. P. I had issued a circular letter (of November 12, 1937) to all the Branches, sometime back, exposing all the mis-statements indulged in by these people in the so-called Mandate of the U. P. Standing Committee and I had expected that they will understand and will be induced to put a stop to their mischievous activities which were causing such an immense harm to the profession in U. P. by emphasising class feelings and creating differences between the two classes of medical men. But this was evidently too much to expect from these people. I find a resolution has been passed at the last U. P. Provincial Conference of the Licentiates, under the influence of these people, in which the Mandate of the U. P. Standing Committee asking the Licentiates to sever their connection from the I. M. A. has been endorsed. This resolution has been broadcast to all the Licentiates in U. P. along with a covering letter in which (in paragraph 3) the I. M. A. has been maligned and held responsible for all the ills the Licentiates are heir to. The usual way of general accusations of a vague nature has been indulged in. The I. M. A. tried to get the definite grievances which the Licentiates' Association had against the I. M. A., so that some basis for a solution of this controversy may be arrived at, but the General Secretary of the All-India Medical Licentiates' Association had not responded. The President of U. P. Licentiates, who seemed anxious to bring this controversy to an end, has also been written to. Let us see if we get anything definite through him, so that it could be considered with a view to bring about harmonious relations essential for protecting the interests of the Profession as a whole. The I. M. A. has always been anxious to remove every legitimate grievance of every member or groups of members of I. M. A. These gentlemen have not had the courage to say anything definite against the I. M. A., as the I. M. A. has really done nothing against the Licentiates, but have levelled general accusations such as "I. M. A. has fallen into the hands of reactionary graduates who . . . . are carrying on mischievous propaganda to malign the Licentiates—cause dissension among their ranks and mislead and prejudice the national press and the general public," etc.

Along with this resolution of the Provincial Conference of Licentiates held at Aligarh, an election manifesto of Dr. Kunj Behari Lal Verma for a seat in the U. P. Medical Council representing the Licentiates in private practice and a statement by Drs. Ram Narain Lal, Shiva Lal Sharma, A. D. Bhandari, and others, supporting Dr. Kunj Behari Lal's candidature are also enclosed. These two documents are simply full of calumny against the I. M. A. Some of the statements are so misleading that, unless exposed, they are likely to produce a wrong impression in the minds of our Licentiate friends. I am, much against my wish, obliged to write again on the subject and give the true facts, so that the wild statements against the I. M. A. made in the zeal of election propaganda may be apprised at their true value by our Licentiate friends:—

(1) In para III of Dr. Kunj Behari Lal's manifesto, it is said:—

(a) Para III (2)—one seat was unanimously recommended for L. M. P. Lady Doctors by the Sub-Committee, but the representatives of the I. M. A. voted in the general meeting that the seat should go to all Lady Doctors—Licentiates and Graduates.

Now the fallacy in this statement is that the voting of the seat in the general meeting is attributed to the "representatives of the I. M. A.," while the fact is that there are no representatives of the I. M. A. in the Medical Council as such. Some of the Graduates voted for a seat for L. M. P. Lady Doctors—others voted in favour of joint electorate of all Lady Doctors. The I. M. A. even at the last Conference resolved in favour of joint electorate for all the seats.

(b) Para III (3)—a grievance is made out of a resolution proposed by Captain Shivapuri asking the Government to abolish the Agra Medical School if it could not be raised to the M. B., B. S. standard.

Now this resolution was unanimously passed at the Benares U. P. Medical Conference. A large number of Licentiates, including Dr. Jawahar Lal—the present President of the Licentiates—, were present at the meeting and supported it. At the All-India Medical Conference held at Madras, the prominent Licentiates such as Dr. U. B. Narayan Rao, the General Secretary of the A. I. M. L. Association, Dr. Vishwanathan, the Editor of the Licentiates' Journal, and other Licentiates, proposed and supported the resolutions congratulating Dr. Rajan—the Madras Minister of Health—on abolishing all medical schools and asking other Provincial Governments to follow the example of Madras. Even the resolutions of the All-India Medical Licentiates' Conference (Resolution No. 5 of Conference held at Agra in 1936) on the subject are definite that the standard should be brought up to a uniform minimum standard which would conform to that prescribed by the Indian Medical Council, and *schools, which cannot be brought up to that standard, should be abolished.* The idea underlying these resolutions is that there should be an uniform standard of medical education in the whole of India, so that the different classes among the medical practitioners may be abolished and thus the inferiority complex, which is at the root of dissensions among the members of the medical profession in India, should disappear. It is for the first time in U. P. that the idea of keeping up a qualification inferior to the M. B., B. S. standard, which is the minimum required by the Indian Medical Council, has been put up at the Aligarh Conference without any justification whatsoever and is clearly a reactionary move.

(c) Para III (4)—the I. M. A. is again held responsible for a resolution of the Lucknow University Sub-Committee not agreeing to L. M. P.'s being admitted to M. B., B. S course.

It is enough to say that the I. M. A. has no representative on any University Sub-Committee and so it is wrong to blame it.

(d) Para III (5)—this para is full of vague accusations against the I. M. A. and its office-bearers:—

(i) " I. M. A. is an Association of reactionary graduates . . . . hostile towards the interests of the Licentiates whom it treats as Camp Followers . . . . The general administration of I. M. A. is unconstitutional, being based on the changing policy of a self-made dictator. . . .

Dr. Kunj Behari Lal should know that the I. M. A. is an Association not of reactionary graduates but of graduates and Licentiates—the latter predominating in number.

The charges of hostile and reactionary attitude towards Licentiates have been fully refuted before (my Circular letter of November, 1937). Instead of treating the Licentiates as Camp Followers, the I. M. A. is the only organisation which provides a common platform for all classes of medical men on terms of perfect equality. I really do not know what he means by calling the general administration of I. M. A. as unconstitutional.

(ii) "A deputation consisting of graduate members of the I. M. A. waited on the U. P. Minister. They did not include even one Licentiate in the deputation."

Now the fact is that out of 9 members of the deputation only 4 attended. Dr. Acharya—who is a prominent Licentiate and Vice-President of the U. P. Branch of I. M. A.—could not attend at the last moment due to some urgent work, though he had attended previous meetings which scrutinised the Memorandum presented by the deputation.

(iii) "The mischief that the deputation did can be surmised from the utterance of the Hon'ble Minister—' that it was proposed in certain quarters to close the Agra Medical School, instead of improving its curriculum—that it would not be possible for Lucknow University to admit L. M. P.'s for M.B., B.S. course and that L.M.P.'s were always looked down upon by the medical profession.' "

Here the I. M. A. is held responsible for the utterances of the Hon'ble Minister of Health! This is certainly no compliment to the Hon'ble Minister, who, as we all know, is too shrewd a person to be easily led away by any deputation. As a matter of fact, the subject of L.M P.s being admitted to the M.B., B.S. course or the L.M.P.s being looked down upon by the medical profession, were never even mentioned in the course of the discussions. The question of Agra Medical School did come up and the recommendations contained in the Memorandum that the School should be raised to the M.B., B.S. standard which is the minimum standard recognised by the Indian Medical Council, or failing that it should be closed as a teaching institution was discussed. This was with the honest intention of seeing that the manufacture of a class, which the Indian Medical Council refuses to recognise, is stopped once for all.

(2) In para IV, Dr. Basu Chaudhury—his rival candidate—comes in for his share of calumny, but I need not say anything in his favour, as I know he is well able to defend himself. But in the first part of the para, it is said:—

" The I. M. A. wants to increase its influence in the Medical Council by sending a Licentiate of their choice—a person who will say that the Licentiates should not get proportionate representation, but be content with their present meagre representation."

I may say at once that the I. M. A. has not put up Dr. Basu Chaudhury to contest this seat. It is Dr. Basu Chaudhury's friends, who consider him a very suitable candidate—one who would be able to do a real good to the profession, if returned—who have put him up and who are supporting him. It is not fair to first malign the I. M. A. and then to call Dr. Basu Dhaudhary as an I. M. A. candidate. One would wish better tactics were employed.

As regards the charge that the I. M. A. wants that the Licentiates should not get proportionate representation but be content with meagre representation is quite wrong. The policy of the I. M. A. has always been in favour of Licentiates getting adequate representation and there are resolutions to this effect passed at various Conferences.

In conclusion I would like to boldly affirm that the I. M. A. is an organisation to safeguard the interests of the profession as a whole, irrespective of class, that it has been persistently trying to raise the standard of education to the minimum laid down by the Indian Medical Council, so that the anomaly of an inferior education not recognisable by the Indian Medical Council may disappear, that it is the only organisation which provides a common platform for all classes of medical men on terms of complete equality. I sincerely hope that the mischievous propaganda carried on by interested people will again fall flat on our Licentiate friends and they will understand the motive behind all this vilification by these few implacable enemies of the I. M. A and the Profession.

Yours fraternally,
BHUPAL SINGH, B.A., M.B.
Hony. Provincial Secretary.

MY DEAR DOCTOR,

You must have read my statement of 11th June, 1938 which I issued to correct certain misleading statements propagated by the Provincial Secretary of U. P. Licentiates' Association and by Dr. Kunj Behari Lal Verma in his election manifesto, evidently with the object of poisoning the minds of our Licentiate friends against the I. M. A. The Provincial Secretary of the U. P. Licentiates' Association has broadcast another statement as Circular No. 4 in which under the heading "I. M. A.'s reactionary propaganda against Agra Medical School," false charges have been brought against the I. M. A. which need refutation so that our Licentiate friends may not be led away by the camouflage indulged in by the author of the Circular.

The Circular deals with 3 main things:—

1. The question of the Agra Medical School;

2. The grievances of the Licentiates ;
3. The frank talk by Dr. Caroli.

1. The question of the Agra Medical School.

In this connection the author of the Circular has tried to bring out the following points:—

(a) That the I. M. A. is the body chiefly responsible for the policy of abolishing all schools teaching Licentiate course and allowing only colleges teaching M. B., B. S. course to exist. This move of the I. M. A. is pronounced as "reactionary" and calculated to "destroy the hearths and homes of the Licentiates"! The Hon'ble Dr. T. S. S. Rajan comes in for his share of censure perhaps because the author of the Circular wrongly believes him to be a Medical Graduate, while the Madras Licentiate leaders, who should know better, claim him to be a Medical Licentiate.

(b) That a college, preparing for a License of the State Medical Faculty, is to be preferred to a college teaching for M. B., B. S. degree of the University. In this connection wild statements like the following are made in the most irresponsible way—"because it is an open fact that hundreds of patients are successfully treated by Vaids and Hakims where best Medical Graduates have failed. This does imply defective training of Medical Graduates in India." Now where do the Medical Licentiates come in this picture? In the zeal for condemning the Graduates the author has not only condemned the scientific system of medicine but condemned his own class.

(c) That the I. M. A.'s resolution about abolition of Medical Schools is a negation of its "resolution to the effect that the Licentiates should be recognised by the Indian Medical Council" and of its "participation with the A. I. M. L. A. year after year including 1937 in the Anti-Medical Council Day demonstration."

Now in order to prove the hollowness of these charges I propose to give extracts from the following pronouncements of prominent Medical Licentiates at the helm of affairs of A. I. M. L. A.:—

(i) An official document of the All-India Medical Licentiates' Association:—A representation to the President and members of the Working Committee of the Indian National Congress (published on page 325 of June number of the Calcutta Medical Journal).

(ii) "Our Future Medical Education" by Dr. U. B. Narayan Rao, General Secretary of the A. I. M. L. A. (published on page 302 of the June, 1938, number of the Indian Medical Journal).

(iii) Extracts from the Presidential Address of Dr. U. L. Narayan Rao, delivered at the 4th Provincial Conference of Madras Medical Licentiates held at Vellore (published on page 421 of August, 1938, number of the Indian Medical Journal).

A. As regards the first point, *i.e.*, I. M. A. being chiefly responsible for advocating abolition of Licentiate Course, here are some cogent extracts from the documents mentioned above:—

Extracts from Dr. U. L. Narayan Rao's Presidential Address:—

(a) "The first fruit of the recent political changes has been the abolition of the Medical Schools in the Province. The honour and pride of having done it goes to a Medical Licentiate who now happens to be the Public Health Minister, I mean Dr. T. S. S. Rajan of this Province. It is an act *of supreme statesmanship* and none but Dr. Rajan of all the Public Health Ministers in India would have been so bold to conceive and bolder enough to execute it immediately. *I assure him on behalf of Licentiates of this Province that there is not one amongst them who has failed to appreciate this reform.*"

(b) "The abolition of the Medical Schools is the inevitable and natural culmination of the aspiration and work of our class and our Association."

(c) "The Government, as anybody else, knows that our Association has been demanding from the very first year of its inception to *affiliate all the Medical Schools to respective Provincial Universities* so that there may be one Medical standard and one Medical degree."

Extracts from the A. I. M. L. A.'s representation made to the Congress President:—

(a) "Whatever the reasons for the origin of this distinction, the considerations which have prevailed so far in continuing the Licentiate course of study no longer exist. My Association has been carrying on an agitation for the abolition of this distinction and for raising the standard of medical education so as to come within the purview of the recognition of the class by the Indian Medical Council. As it is, our class is left out and is not recognised by the Indian Medical Council *which has laid down the Graduates' course as the minimum necessary qualification.*"

(b) "As has been referred to above, the demand of my Association has been for a uniform standard of medical education throughout the country and the abolition of the distinction in the medical profession in which the Licentiates are looked upon as the 'Harijans' in the profession. *We stand for the policy of Dr. Rajan* and the policy accepted by the Conference (Conference of Health Ministers) for the elimination of the lower standard of education. With this idea our Annual Conference which met at Agra last year

took the following decision which speaks for itself:—

"Whereas it is expedient that there should be a uniform minimum standard of medical education throughout India which would conform to that prescribed by the Indian Medical Council, this Conference unanimously resolves that:—

(i) The premedical qualification required for admission to Medical Schools and Colleges of that standard be raised to I. Sc.

(ii) The period of study for obtaining the minimum registrable qualification be raised to 5 years.

(iii) The various provincial medical councils, medical faculties and the Government be requested to give effect to the above considered recommendation without any further delay.

(iv) *Those medical schools which cannot* in the opinion of the Government *be brought to the above required standard be abolished.*"

(c) "The Indian Medical Association which represents all the medical men in India—Licentiates and Graduates—at its 14th Annual Conference held at Madras in December last under the Presidency of Dr. B. C. Roy also passed a resolution *supporting our demand.*"

(d) "We request the Ministers of Public Health to give effect to the decision of the Conference and *abolish the class of Licentiates entirely* and put an end to this distinction once for all. We are writing this to you as the supreme guide for all our national affairs to see *that the action taken by Dr. Rajan in his Province and the decision taken by the Conference of Congress Ministers of Health are followed* up in at least the Congress Governed Provinces."

(e) "I, therefore, would request you to instruct the Ministers under your control to follow up the line laid down by the Conference."

The above extracts should be enough to convince anybody that it is the All-India Medical Licentiates' Association that is wholly responsible for the policy of abolishing the Medical Schools and replacing them by Colleges teaching up to the M. B., B. S. standard—the minimum qualification recognised by the Indian Medical Council. The Indian Medical Association has certainly sympathised with this demand of the A. I. M. L. A. and has given its full support to it as it has always believed that there should be one minimum registrable qualification in the whole of India and that the class distinctions in the medical profession should be abolished as they are unnatural and detrimental to the interests of the profession as a whole.

B. As regards the second point, *i.e.*, that a College preparing for a License of the State Medical Faculty is to be preferred to a college teaching for M. B., B. S. degree of a University, I again give you some cogent extracts from the documents referred to above, to show that the contention cannot hold ground:—

Extracts from Dr. U. L. Narayan Rao's Presidential Address:—

(a) "This leads me directly to answer the main question: whether to have a medical diploma equivalent in all respects to a medical degree but separate from the latter or to have only one *University minimum medical degree, namely the M. B., B. S.* If these two designations mean one and the same thing as they are intended to be and if the rules for admission and the courses of study in a medical school and a medical college are to be on the same basis of Intermediate in Science and five years' course as they have to be under the regulation of the Indian Medical Council, *I fail to understand the significance, the importance or the necessity for two separate but equivalent minima with different appellations.* The British model cited in this connection is, it seems to me, entirely out of point.....In the United Kingdom healthy conventions have grown with regard to the medical diplomas and degrees whereas in India the Government, ever since the beginning of modern medical education, have imposed and perpetrated a different status, value and treatment to the diploma of the medical schools and the degree of the university medical colleges. It is also useful and important to note that in every other civilised country except in Great Britain medical diplomas do not exist and M. D. alone is laid down as the minimum medical qualification for legal registration. I therefore urge my friends in Northern India to choose the continental model. That I believe would pave the way for medical progress and efficient medical and public health service to the people of the country. *That alone would result in homogeneity in the profession. That alone would put an end to the existing class difference* among registered medical practitioners."

(b) "I admit that these two objects" *viz.* (i) to work for the abolition of the present compartmentalism in medical education, medical services and registration in the country and (ii) to urge for and obtain statutory equality of status for the medical licentiates in respect of entry into State services and high appointments therein can be attained either by reorganising medical school education in such a manner as it would be recognised by the Indian Medical Council or by converting the medical schools into University medical colleges. But I have already discussed the manifold *advantages of having only one kind of minimum medical education and one type of minimuc medical degree, viz., M. B., B. S.* I do not therefore repeat the same arguments but urge my North India friends to give

a clear thought to the subject, discuss it without passion and self interest and evolve a solution favourable to the future consolidation of medical education and medical profession in this country and I have no doubt in my mind that they will come to the inevitable conclusion, *viz., that to abolish the medical schools and to have only one standard of medical education under the control of the Provincial Universities is more profitable ultimately than to have two minimum standards with the intrinsic and extrinsic possibility of class differences and preferences in the profession.*"

Extract from "Our Future Education" by Dr. U. B. Narayan Rao:—

"The chief question that now arises is whether it is necessary to have the present dual system to attain the required uniform standard. This system is peculiar only to England and naturally it was introduced into India. But whereas in England the diploma and the degree holders are both registered by the General Medical Council and have no serious clash of interests, unfortunately in India these two have been separated into water-tight compartments. The diploma holders are not given any chance for higher studies nor for competitive examinations. They are a class by themselves and taken to be inferior to the degree holders with the result that to-day the Indian Medical Council refuses to recognise them. Hence the difference between the two classes has been growing. At this stage therefore raising the standard of the Licentiate diploma to that required by the Indian Medical Council but retaining the name of the diploma cannot wipe these differences out from the memory of the medical men themselves, nor the public, nor the Government. The word Licentiate has unfortunately been restricted to the class of medical men only. The L. M. or the L. M. S. of old, though literally Licentiates, were always classified as graduates. Only the Sub-Assistant Surgeons were termed Licentiates. Hence even if the standard of the Licentiates is raised it will take another century before the real significance of this improved diploma is correctly understood by the people. Till then the diploma will remain and continue to prejudice the minds of the people."

"Another important point that we should remember is that it is not sufficient if the premedical course in these institutions is raised to I. Sc. it is not even sufficient if the course is raised to 5 years as in the Universities. Because these improvemnts may not mean automatic recognition by the Indian Medical Council. There are other considerations like equipment, building, etc., which are demanded by the Indian Medical Council. That is why these institutions should be affiliated to the universities which can bring them up to these requirements without any difficulty."

It should be quite clear, from the extracts given above which represent the views of prominent Licentiates of All-India fame, that the M. B., B. S. which is the minimum registrable standard of medical education required by the Indian Medical Council should be the only medical degree in India for the future and the medical diploma should be abolished. The medical schools should be brought up to this standard and affiliated to the various universities. The author of Circular No. 4 has laboured hard to bring forward arguments in favour of retaining the Licentiate diploma but has not succeeded in convincing anybody of the necessity of retaining it. When the premedical qualification is to be Intermediate in Science with Biology and the period of study is to be 5 years just like the graduate course one fails to see why a diploma with traditions of inferiority associated with it should bs retained at all and class distinction in the profession perpetuated.

C. As regards the 3rd point, *i.e.*, that the resolution of the I. M. A. about abolition of the medical schools is a negation of its "resolution to the effect that the Licentiates should be recognised by the Indian Medical Council and of its "participation with the A. I. M. L. A. year after year including 1937 in the anti-Medical Council Day demonstrations":—

Now this question is connected with the future status of the existing Licentiates. I may say at once that the present policy of the I. M. A. is to do its best to improve the status of the present Licentiates by insisting on the Government that their qualifications should be recognised by the Indian Medical Council and it is in pursuance of this policy that the I. M. A. has again decided to hold protest meetings against the action of the Indian Medical Council in not recognising the qualification of the Licentiates. But surely it is too much to expect the I. M. A. to give its support to perpetuating class differences in the profession for all time to come. Why should the future generations of medical men be made to suffer so that the present Licentiates may not be left alone as a class by itself? This is the present position of the I. M. A. Below I give extracts from the documents mentioned by me above to show what the prominent Licentiates say on this point:—

Extract from the Presidential Address of Dr. U. L. Narayan Rao:—

"The next point of contention is that, if such a change is permitted, it will go against the interests of the existing Licentiates. This is no doubt true to an extent but I contend that is inevitable. Even if a new diploma registrable by the Indian Medical Council is inaugurated with corresponding changes in the curricula of studies in the medical schools it would still leave the existing Licentiates unrecognised by the Indian Medical Council.....what I want to point out to you now is that whether the medical school is reformed in such a way as would gain the recognition of the Indian Medical Council or whether it is abolished and converted into a college under the University the status of the existing Licentiates cannot materially be altered because in either case they would not be recognised by the Indian Medical Council.....

.....we must understand this constitutional position clearly and adjust our demands accordingly and in doing so *we should take care not to jeopardise the integrity of medical education and medical profession of the future in our country.*"

Extract from "Our Future Medical Education" by Dr. U. B. Narayan Rao:—

"The other argument against University affiliation is that the Licentiates will lose their identity if the schools are abolished. They say that it will be a suicidal policy. They seem to forget that even the future Licentiates with improved standard may not like to call themselves as such and associate with us just as we abhor being dubbed as Dressers or even as Hospital Assistants. They would consider themselves as pucca graduates. They would not like to associate themselves with a name which was specially meant and used for "Harijans" of the profession—a name which is at the bottom of all the unfortunate differences amongst the members of the noble profession—a name which has perpetuated a caste system with its untold miseries in the past and the present. *Let us offer the supreme sacrifice of self-extinction at the altar of a united medical brotherhood.* Let us die that others may live."

Noble words these. Let us hope that the Licentiate friends, who are at the helm of affairs of the A. I. M. L. A. in U. P. will rise to the occasion and will stop giving wrong lead to the U. P. Licentiates in the matter of future medical education.

2. The second subject dealt with in Circular No. 4 issued by the Provincial Secretary of the Licentiates is the so-called grievances of the Licentiates against the I. M. A.

All I have to say in this connection is that the I. M. A. has always been anxious to remove legitimate grievances of the Licentiates and has been trying to get the detailed grievances from the A. I. M. L. A. The Hony. General Secretary of the I. M. A. wrote to the Hony. General Secretary of the A. I. M. L. A. soon after the last All-India Medical Conferences asking for detailed grievances and he was referred to the so-called mandate of the U. P. Standing Committee. The U. P. Provincial Secretary of the I. M. A. tried to get the grievances from the President of the U. P. Licentiates and though he (the latter) promised to get the grievances sent to him but in spite of reminders he has chosen to be silent. Now in the Circular No. 4 the Provincial Secretary of Licentiates has referred to certain documents of 11 typed foolscap pages and 9 typed foolscap pages and so on (though somehow the so-called mandate of U. P. Standing Committee is not mentioned by him) as grievances of the Licentiates. I quite fail to understand why it should not be possible for the Provincial Secretary of the Licentiates to draw up a list of the real grievances up-to-date (as the grievances have been showing a tendency to grow from day to day) and send them to the U. P. President of the Licentiates to be forwarded to the Provincial Secretary of the I. M. A. who has made a special request to him or directly to the Provincial Secretary if he prefers it. Surely this does not involve any question of prestige. I can assure him of a thorough scrutiny of the grievances and a definite effort on the part of the I. M. A. to do their best to remove the grievances and restore harmony.

As regards an enquiry committee:—At the special requisition of the Benares Licentiates at the time of the Benares Conference a Committee consisting of 3 representatives of the graduates and 3 representatives of the Licentiates was formed to go into the whole matter. The committee met at Lucknow and went into the whole matter and came to the conclusion that the allegations made against the I. M. A. were unfounded and have been completely refuted by the Provincial Secretary and the General Secretary of the I. M. A. (Report of the committee published at page 470 in May, 1938, number of the Journal of the I. M. A.). The Provincial Secretary of the Licentiates evidently has no knowledge of this Committee and its report.

3. The third subject dealt with in Circular No. 4 are extracts from a paper read at a meeting of the Meerut Medical Association by Dr. J. L. Caroli.

Certain misunderstandings had cropped up in the mind of Dr. Caroli and he brought up the subject before the Association. As a result of frank discussion all the misunderstandings were cleared up and harmonious relations restored. It is very unfair for the author of the Circular No. 4 to give extracts of this paper to malign the office-bearers of the I. M. A. when he should have known that all the misunderstandings had been cleared up. I would give below a few extracts from Dr. Caroli's letter which he wrote to the Provincial Secretary when his (Dr. Caroli's) attention was drawn to publications of these extracts from his paper.

Extracts from Dr. J. L. Caroli's letter to the Provincial Secretary of I. M. A.:—

"My attention has been drawn to the extracts published by Dr. K. B. Lal in his bulletin No. 4 from the paper I read in the Medical Association.

"As the publication is likely to cause mischief by creating a wrong impression in the public mind I think I owe it to my friends to disclose the full facts and circumstances under which extracts from my paper have been so improperly used.

"I and Dr. Bhupal Singh are good friends and our relations have always been cordial and straightforward. Whatever misunderstanding that existed in my mind against some of the members was amicably settled after a frank discussion and the hearty and friendly atmosphere that previously pervaded in the Medical Association was completely restored after this heart to heart talk.

"Just after the meeting Dr. Kunj Behari Lal came to my place and asked me to show him the paper I had read, this he took away home.....
.....I sent a doctor friend of mine to get back that paper with a special message that under no circumstances any portion of my paper should be used for publication. I repeated my request personally.....But in spite of

this Dr. Kunj Bihari Lal did not consider it a breach of privilege to publish some of the extracts not only without my permission but contrary to my specific request.....It is extremely painful to me that the wholesome relations between the members of the Association should have been unnecessarily disturbed by this unwise and indiscreet publication outsides."

Comments are unnecessary; I have put the whole facts before you and it is for you to judge.

In conclusion I would earnestly request our Licentiate friends to look at the matter dispassionately. The I. M. A., consisting as it does of Licentiates and Graduates, could have no possible motive for carrying on a "propaganda against the Agra Medical School" or for destroying the hearths and homes" of Licentiates. I have clearly shown by extracts from the writings of prominent Licentiates of All-India fame that it is the A. I. M. L. Association which has been trying for a long time past for the raising of the standard of Licentiates education and for bringing it on a par with the Graduate education so that the ban of inferiority may be lifted from the Licentiates and the class-distinction in the medical profession may be removed. The I. M. A. has no doubt given full support to this demand of the Licentiates. Now that the efforts of the A. I. M. L. A. have borne fruit why should the few Licentiates in U. P. sound a discordant note and go against the declared policy of the A. I. M. L. A.? The Agra Medical School cannot lag behind the wheel of progress. It has either to be converted into a college teaching for M. B., B. S. or be abolished. Even the U. P. Licentiates at the helm of affairs of the Provincial Branch of the Licentiates want the teaching at the Agra Medical School to come up to the minimum standard laid down by the Indian Medical Council which is the M. B., B. S.—the preliminary qualification is to be I. Sc. with Biology and the course of study full 5 years exactly as in the Lucknow Medical College. Why should they want the Licentiate Diploma to be retained is not quite explicable except that these few leaders are thinking more of themselves than of the future medical profession as a whole. I think it is high time the Licentiates in U. P. should assert themselves and not allow these gentlemen to continue giving a wrong lead against the declared policy of the A. I. M. L. Association itself.

Yours fraternally,
BHUPAL SINGH, B.A., M.B.
Honorary Provincial Secretary.

NOTE:—Italics in the quotations are mine.

TINNEVELLY DISTRICT MEDICAL ASSOCIATION

THE PRESIDENT'S FUNCTION

The President's Function of the Tinnevelly District Medical Association was held at its monthly meeting on the 21st of August, 1938, under the Presidentship of Lieut-Col. T. S. Shastry, I.M.S. Members numbering 67, including three women doctors were present. Lieut.-Col. Shastry was "at home" to the members.

The Secretary read out the minutes of the Joint Meeting of the Pandya and Chera Medical Associations held at Courtallam, on the 23rd of July 1938.

Rao Bahadur Dr. C. B. Rama Rau, M.D., retired District Medical Officer was unanimously elected as an Honorary Member of the Association.

On the invitation of the Secretary of the Indian Medical Association the following were elected President and Vice-Presidents of the Indian Medical Association for the ensuing year:—

President:—Colonel K. V. Kukday, I.M.S., Retd. (Nagpur).

Vice-Presidents:—Lieut.-Col. T. S. Shastry, I.M.S. (Palamcottah), Dr. Miss B. Thungamma, (Benares) and Dr. A. Vishwanathan, L.M.P., (Madras).

Consideration of the membership of the Indian Medical Association when persons are transferred to places where there is no Branch of the Indian Medical Association was discussed but the decision was postponed.

Dr. K. S. Subramanya, L.M. & S. read notes of a case of retro-peritoneal hydatid cyst in the pelvis.

Dr. P. S. Srinivasan read notes of a case of multiple injuries attended with fracture of skull with escape of brain matter and a case of fracture ribs complicated with surgical emphysema.

Dr. M. Venkatachalam Chetty read notes of a case of an accidental fall, causing fracture of left collar bone and left ribs.

All the cases were operated and treated at the Government Headquarters Hospital, Palamcottah. The cases were exhibited and were fully discussed by the members. In connection with the above specimens and skiagrams were also shown to the members.

Dr. A. L. Ananthanarayana Iyer, M.B.B.S., demonstrated a case of hemiplegia and explained how to examine systematically a case in which the nervous system is affected.

Dr. K. Ramachandra Naidu, L.M. & S. showed a case of temporary fits of unconsciousness and read out notes of the same.

Thereafter Colonel Shastry, I.M.S., summed up the salient and important features of all the cases and their differential diagnosis in detail. He requested all the members to do health propaganda along with their professional work.

An excellent dinner brought the happy gathering to a close.

HEALTH EXHIBITION

In connection with the monthly meeting, a Health Exhibition was arranged at the Municipal Office, Palamcottah, on Sunday the 21st of August, 1938 at 10 a.m.

Dr. P. R. Venkatarama Iyer, M.B. & C.M., Retired District Medical Officer, opened the Exhibition. In declaring the Exhibition open he said that such exhibitions are very useful, instructive and beneficial to the public. He delivered his speech in Tamil on topics like nutrition and preventive diseases like tuberculosis, cholera, etc., which was very instructive.

Dr. Rajarathnam, B.Sc., L.M. & S., delivered an interesting lecture in Tamil for the benefit of about 300 boys and girls who attended the Exhibition.

The Exhibition was kept open till late in the evening. The exhibits consisted of posters on tuberculosis, smallpox, flies, mosquitoes and cholera, vitamins, etc. The exhibits supplied by Messrs. Burroughs Welcome & Co., Ltd., on tropical diseases were also exhibited. The local Sanitary Inspector took the boys and girls in batches and explained to them the posters that were exhibited.

K. RAMA AYYAR, M.B.B.S., (Andhra),
Secretary and Treasurer.

HOOGHLY, CHINSURAH & CHANDERNAGORE BRANCH

Proceedings of the general meeting held on 15-9-38.

Dr. A. Datta, Chandernagore, presided.

The following resolutions were passed about the holding of the second session of the Bengal Provincial Medical Conference at Chinsura:—

1. Scale of fees:—

(a) Membership of the Reception Committee Rs. 5.

(b) Delegation fee (members, I. M. A.) Rs. 2.

(c) Delegation fee (non-members) Rs. 3.

2. *Reception Committee members*: All the members of this branch be requested to be members of the Reception Committee in general.

(a) Resolved that Capt. R. Sinha be the Chairman of the Reception Committee.

(b) Resolved that Dr. M. M. Chatterjee be the Organising Secretary.

3. Formation of sub-committees:—

A. Propaganda:—

Drs. B. C. Ganguly, Health Officer, District Board (Hooghly), S. N. Bhandari (Chinsura), K. C. Mallick (Hooghly) and A. D. Das (Chandernagore), *Secretary*.

B. Exhibition:—

Drs. S. C. Roy (Chandernagore), S. K. Sen Gupta(Hooghly), M. L. Rakshit (Chandernagore) and B. C. Seal (Chandernagore), *Secretary*.

C. Scientific Section:—

Capt. J. C. Dey (Chinsura), Drs. H. C. Moitra of Imambarah Hospital(Chinsura), Miss Roy Imambarah Hospital (Chinsura) and B. C. Chatterjee (Chinsura), *Secretary*.

D. Site selection and other arrangements:—

Capt. J. C. Dey (Chinsura), Drs. S. C. Ghosh (Chinsura) and M. M. Chatterjee (Hooghly), *Secretary*.

E. Entertainments:—

Capt. K. N. Chatterjee (Chinsura), Drs. J. Sreemany (Chandernagore), B. B. Chakraborty (Chinsura) and A. Dutt (Chandernagore), *Secretary*.

Resolved that all the sub-committees should have the power to co-opt two more members, if necessary.

4. Sites of the Conference:—

Victoria Town Hall (Hooghly), Rupali or Bijoli (Chinsura), Nritya Gopal Smriti Mandir (Chandernagore) and Janhnabi Nibas (Chandernagore).

5. Provisional dates:—

23rd and 24th November, 1938.

MOHIM M. CHATTERJEE,
Jt. Secretary.

MEDICAL NOTES AND NEWS

FEES FOR MEDICAL EXAMINATION OF INSURANCE CASES

In connection with the proposed reduction of fees for medical examination of insurance cases, as suggested by the Indian Life Assurance Offices Association in their tenth annual general meeting held at Lahore on the 15th March, 1938, the Executive Committee of the Calcutta Medical Club adopted the following resolutions:—

"Be it resolved that this Committee (Executive Committee of the Calcutta Medical Club) on behalf of the medical profession and of the Calcutta Medical Club strongly protests against the lowering of fees as suggested by the Indian Life Assurance Offices Association in the proceedings of their tenth annual general meeting held at Lahore on 15th March, 1938."

"Be it resolved that this Committee requests the Central, Provincial and Calcutta Branches of the Indian Medical Association to take up the work of safe-guarding the interests of medical men examining life insurance cases, and that this Club is willing to co-operate with the above association in all possible manner and that a copy of the resolutions be sent to the provincial branch of the Indian Medical Association."

"Whereas the Committee considered that the Indian Life Assurance Companies were making headway in business in India and their majority of policy-holders are insured for Rs. 2,000/- and under, whereas the Committee further considered the amount of time that a medical examiner had to spend after every case in eliciting correct answers from a proponent to the innumerable questions in the medical report and also the elaborate examinations to be made in order to fill up the form, and that for ordinary purposes of examination and treatment the medical practitioner has to devote much less time, be it resolved that this committee on behalf of the medical profession and the Calcutta Medical Club, considers that the scale of fees so long in existence for medical examination for life assurance is inadequate and inequitable, and is to be raised."

"The Committee does not find any reason for difference of fees for different amounts in the proposals when the amount of labour involved is the same in every case, unless it is from a view point of profiteering in the business of the company to discriminate among the members of the profession."

"Be it resolved that the above resolution be sent to the Indian Life Assurance Offices Association and to individual Indian Life Assurance Offices."

BENGAL COUNCIL OF MEDICAL REGISTRATION

1. The Council of Medical Registration, Bengal, submitted to the Government in October, 1934, their recommendations for a re-allocation of its constitution under Sec: 4 of the Act, and for the removal of some working defects by amending the Bengal Medical Act of 1914. The recommendations were repeated in their resolution of July 1936 and February 1937.

2. The Council in their resolution of January 1937 and July 1938 recommended to the Government an amendment of Section 19 of the Act so as to make it clear that the Council has the power to recognise or withdraw recognition of medical schools.

3. The Council's proposal for raising the fee for entry of additional medical qualifications from Rs. 5/- to Rs. 25/- was sanctioned by the Government in February 1936.

4. The Council by a resolution in February 1937 decided upon a scheme of improving the standard of training for the Licentiates, proposing *inter alia* for raising the preliminary qualification to I. Sc. with Physics and Chemistry, and extending the period of the medical course from 4 to 5 years. The recommendation was repeated by a further resolution in January 1938 when it also proposed that a deputation should wait upon the Hon'ble Minister in charge to explain the urgency of the question.

5. In their resolutions of July 1937 and July 1938 they emphasised the need of separate teachers for separate subjects and of improvements in other directions in several medical schools. The recognition was extended by two years and in two cases by one year within which they were required to remove the defects.

6. A Standard Form of Inspection of medical Schools and Hospitals where the students received their training, was adopted by the Council by a resolution in July 1938, with a view to secure uniformity and also to indicate to the institutions what requirements they are to fulfil.

7. At their meetings of January 1938 the Council expressed their grave anxiety regarding the finan-

cial position, and adopted resolutions that grant from Government should be increased. The ordinary half-yearly meeting due in July, 1937, had to be stopped for want of funds.

8. The Council at their meeting of July 1936 adopted a resolution that representatives from them should inspect the Licentiateship Examinations held by the State Medical Faculty.

A. I. MEDICAL LICENTIATES ASSOCIATION PRIZES

The subject for 1938 for the Dr. Joseph Benjamin's Thesis Prize of the value of Rs. 35/- is Enteric Fever and that for the Dr. P. S. Ramchandrier's Prize of the value of Rs. 25/-, Infant Mortality—Its causes and Prevention. All bonafide members of the Association can compete. Papers are to be written in lecture style dealing with practical points and should not exceed 1000 typed lines or their equivalent. The Gujrat Branch of the All-India Medical Licentiates' Association, Ahmedabad, invites theses on Puerperal Sepsis, its causes, symptoms, treatment and prevention. The best paper will carry a prize of Rs. 35/-. All the papers are to reach Dr. Jamiatram B. Desai, 52, Pritamanagar, on or before the 31st December, 1938.

MEDICAL REVIEW FOR INDIA

An Indian Medical Review, the first attempt of its kind in the history of modern medicine in India, containing information on all matters of interest to the medical, nursing, pharmaceutical and allied professions, will shortly be published by the Director-General, Indian Medical Service.

Hitherto the various provinces and the Indian States have been publishing annual records of the activities of their respective medical and public health Departments. The Public Health Commissioner with the Government of India has also been publishing annual reports dealing with the incidence of diseases, and vital and health statistics, but a review of the type now to be published is a new departure, and hopes are entertained that the publication will fulfil a great need.

The subjects, which it is proposed to include, cover a wide field from administrative organisations in the provinces and at the Centre to statistics relating to medical colleges, hospitals and dispensaries in British India and to those under the control of the Political and External Affairs Departments of the Government of India and Mission Medical Institutions.

Detailed information, it is understood, will be given in the publication about the medical profession and medical services of India, hospitals, dispensaries, and nursing homes, with special reference to facilities for rural medical relief, a subject of vital interest; medical inspection of school children, post-graduate training of medical officers; X-ray and radium facilities available in India; mental hospitals and psychiatric clinics; scales of fees charged from patients at the various Government hospitals; legislation for the control of practitioners of the Indian systems of medicine; Provincial and Central legislation regarding the registration and control of practitioners of the modern Western system of medicine and surgery; medical education of men and women in India; history and activities of the various medical colleges and schools. the system of training of nurses, their examination, registration and conditions of services; facilities available for maternity cases and training of the midwife and the *dai;* history and activities of the important research institutions and of the Imperial Serological Department; control of the pharmacy and drugs; and the work, methods and organisation of the numerous medical and cognate societies.

ROCKEFELLER'S CHARITIES DO NOT EXTEND TO INDIA

Almost every European nation has been the recipient of Rockfeller charities, even such ones as are piling up armaments for offence and defence, France for the University of Paris (The grateful French adorned J. D. Rockefeller Junior with a Legion d'honour), Germany for the Physics Department of the Kaiser Wilhelm Institute; England for her Medical Research Council, and Library of the University of Cambridge. Italy has been left out—the Abyssinian venture gave her too bad a name. We have great doubts whether the Spirit of the Donor looks with approval upon such large endowments to countries which have surplus enough to manufacture armaments for the destruction of mankind.

However, it is for the present administrators of the Foundation to satisfy their conscience. To us, the policy appears to illustrate, apart from anything else, the well-known adage of "Carrying coal to Newcastle." The endowments will be justified if the recipients are men who are carrying on useful work, but probably, owing to their views, may not be in favour with their respective Governments.

In the long and impressive list of the endowments we are sorry to note that "India occurs nowhere." We may be permitted to observe in this connection that neglect of India does not appear to to be consistent with the motto of the Foundation "to promote the well-being of mankind throughout the world," when one-fifth of the human race inheritors of the most ancient civilization of the world are left out altogether from the operation of the Great Charity, especially when considerable scientific investigation is being carried on in this country under very discouraging circumstances. So far as India is concerned, the Rockefeller Foundation gave money for the construction of the All-India Institute of Hygiene at Calcutta, and have given a number of foreign scholarships to Indian graduates. But these grants are quite insignificant to those given to much smaller countries. (*Science and Culture*).

WHAT IS ADEQUATE HOSPITAL SERVICE

In the United States, for a population of a hundred and twenty million people, there are 1,124,548 hospital beds, or a ratio of 9·3 hospital beds per thousand people. Excluding mental hospitals, the figure is 4·6. Such ratios, however, when taken alone do not suffice to answer the question as to whether or not we have adequate hospital service. Much depends on whether the population is rural or urban, on the type of housing which prevails, on the availability of servants, on the habits of the people and on the degree to which they have become accustomed to the idea of hospitalization for minor illnesses. In 1937 those states which had the highest percentage of occupancy were the states which had the highest bed ratio, while the states with the smallest number of hospital beds in relation to the population had the largest percentage of unoccupied beds. This would seem to indicate that hospitals have been built where they were needed and have not been built where they are not needed. Another method of appraising the adequacy of hospital service is based on geographical distribution. In a recent issue of the Journal is a map of the United States which shows in white all those areas which are within thirty miles of a registered hospital; the remainder of the country is shown on the map in black. It is obvious that the black areas are chiefly confined to the Rockey Mountain areas and adjacent territory. In the United States 98·5 per cent of the people live within thirty miles of a hospital. (*J. A. M. A.*).

INVADING CHINA WITH DRUGS

A strong indictment of the Japanese methods in occupying China was made by Mr. George Buller of the United States at a meeting of the Advisory Committee on Traffic in Opium of the League of Nations, held at Geneva. He said that Japan was deliberately flooding China with opium and heroin as part of the methods of overcoming Chinese resistance and that the traffic, in which there had been a vast increase, was in the control of the Janpanese army, with disastrous results to the Chinese population and with repercussions on the illicit international traffic that were likely to be a great danger to the rest of the world. Mr. Butler's denunciation was supported by the representatives of Egypt, Canada, India and Great Britain. Dr. Hoo Chi-tsai, the Chinese representative, said that Japan was invading China with drugs as well as with soldiers. Consumption of opium was encouraged by the Japanese military authorities, and the menace was increased by clandestine manufacture. (*J. A. M. A.*).

ORDERING POISONOUS DRUGS OVER THE TELEPHONE

The American Pharmaceutical Society, after consultation with the British Medical Association, has issued a warning to physicians and pharmacists that the drugs listed under schedule 4 of the poison rules may be supplied to the public only on medical prescription. Those in common use are cinchophen, aminopyrine and the numerous barbiturates. They may be supplied by pharmacists to physicians in response to a telephone order but not to patients on a telephone prescription. The Pharmaceutical Society, as the authority for the administration of the rule,

can no longer acquiesce in failure to comply with it and must bring offenders into court. It wants to avoid this and therefore appeals to both physicians and pharmacists to observe their legal observations.

PROFESSOR FREUD HONORED

Professor Freud, who recently came from Vienna to London, where he will reside, has been subject of an unusual honor. He is a foreign member of the Royal Society, and his health did not allow him to visit the offices of the society to sign the book. It was therefore taken to his residence for the purpose. This is a signal honor, as only on rare occasions is the charter book of the Royal Society removed from headquarters.

EMERGENCY EPIDEMIOLOGY IN CHINA

On June 11th, in a review of the situation in China, we referred to the prospects of cholera spreading among the refugees. The Yellow River floods have added to the misery and destitution of large areas, and have further strained the resources of local administration; so that to-day there is, as was expected, an epidemic of cholera, especially in the central and south-western regions. The Chinese Government has appealed to the League of Nations for 6,000,000 doses of cholera vaccine and there has been a generous response: Australia and Ceylon have sent 500,000 doses each, the Philippines (Red Cross) 1,000,000, Denmark 130,000, Rumania 1,000,000, Yugoslavia 5,000,000, Turkey 1,000,000 and Egypt 180,000. The Pasteur Institute at Hanoi has previously sent 250,000 doses; the National Institute of Bacteriology at Buenos Aires offers 200,000; and the American Red Cross are immediately shipping 3,000,000. The three League units are allocated to north, central, and south-west China, and though for the moment they are chiefly concerned with cholera they have already done much to help the Chinese Government in its task of protecting the health of the civil population. The Government has created no fewer than 100 small units for rural districts, and 3 large anti-epidemic units, consisting of 150-250 doctors and nurses; it has also granted 160,000 dollars to the League's epidemic commission. All three of the League's units have undertaken smallpox vaccination on a large scale, while typhus has been tackled by inoculation, delousing measures, the supervision of refugees, and the establishment of hospitals. For the campaign against malaria two tons of quinine have been sent out by the League, and efforts are being made to cope with syphilis, rabies, plague, and the diseases of malnutrition. The demand is always for more medical help, and the Chinese Government has asked the League to continue its assistance by maintaining the units for another year. It is unthinkable that this request should be refused. (*Lancet*).

A LEGACY FOR VICTIMS OF CLEFT-PALATE

The annual report of Finland's National Red Cross Society for 1937 devotes a whole chapter to the initiative taken by this body in tackling the problem of the cleft-palate and hare-lip. It is estimated that every year at least 70 children are born with cleft-palate in Finland, whose population at the 1934 census was between three and four million. It has also been calculated that there are between 2500 and 3000 persons living in Finland at the present time with this deformity. Till lately, no successful attempt had been made to centralise these cases in a special hospital for the highly intricate operative treatment that this condition demands if the patient is to get the best chance of rescue from the effects of a deformity which threatens his participation in normal social life. A recent testamentary windfall, earmarked for the benefit of these patients, gave the Finnish Red Cross an opportunity to serve them. It appointed a committee of three, including two doctors which decided on three lines of action: (1) the compilation of a card index of all the cases of cleft-palate, with or without hare-lip, in Finland; (2) the training of a teacher who would correct speech defects persisting after operation; (3) the provision of a grant for some surgeon willing to specialise in this field. The attempt to attain the first objective by notices in the medical and lay press was not successful, and it seems doubtful if a complete survey of the incidence of cleft-palate throughout Finland can be achieved by other means than compulsory notification by doctors and midwives. More progress has been made with the second objective, and a teacher, trained in Stockholm and Copenhagen, began in the autumn of last year to give lessons in voice production and articulation to these patients. As to the surgeon, a grant

of 25,000 Finnish marks has been made to Dr. A. Soivio, who is already experienced in the performance of cleft-palate operations, to enable him to study the technique used in other countries. We understand that Denmark also is aiming at centralising cleft-palate surgery as far as possible in one clinic. (*Lancet*).

BENGAL PROVINCIAL MEDICAL CONFERENCE

The second session of the Bengal Provincial Medical Conference will be held in the Victoria Hall, Hooghly on the 23rd and 24th November 1938. There will be a General Section, an Exhibition and particularly a Scientific Section where original papers will be read and discussed. Those intending to contribute papers should send a typed copy to the Organising Secretary with the membership fees the scale of which is as follows:

(1) Membership of the Reception Committee Rs. 5.
(2) Delegation fee (members, I. M. A.) Rs. 2.
(3) Delegation fee (non-members) Rs. 3.

Any medical man or scientist may take part in the Scientific Section only on payment of Rs. 3.

Particulars may be obtained from the Organising Secretary, Second Bengal Provincial Conference, Sunny Bank, Chinsura (Hooghly).

XV ALL-INDIA MEDICAL CONFERENCE, MEERUT, 1938

Programme

First Day—Tuesday, 27th December, 1938.

9-15 A.M.	TO 11 A.M.	...	Opening of Exhibition and visit to Exhibition.
11 A.M.	TO 1-30 P.M.	...	(i) Opening of the Conference; (ii) Welcome by the Chairman of Reception Committee; (iii) Presidential Address; and (iv) Election of the Subjects Committee.
1-30 P.M.	TO 3 P.M.	...	Interval for Lunch.
3 P.M.	TO 5 P.M.	...	Scientific Section.
5 P.M.	TO 6 P.M.	...	At Home by Bengal Chemical & Pharmaceutical Works, Ltd., Calcutta.
6-30 P.M.	TO 8 P.M.	...	Cinema Show by Havero Trading Co.
8-30 P.M.	TO 10 P.M.	...	Interval for Dinner.
10 P.M.	onwards	...	Subjects Committee meeting. ...

Second Day—Wednesday, 28th December, 1938.

9-15 A.M.	TO 11 A.M.	...	(i) Central Council Meeting of I. M. A. (ii) Sight-seeing for those who are not members of the Central Council.
11 A.M.	TO 1 P.M.	...	Scientific Section.
1 P.M.	TO 2-30 P.M.	...	Interval for Lunch.
2-30 P.M.	TO 6 P.M.	...	Conference Session including interval for tea.
6 P.M.	TO 8 P.M.	...	Interval for visit to the Exhibition.
8 P.M.	TO 10 P.M.	...	Dinner by Reception Committee. ...
10 P.M.	onwards	...	Subjects Committee meeting.

Third Day—Thursday, 29th December, 1938.

9 A.M.	TO 9-30 A.M.	...	Group Photo.
9-30 A.M.	TO 11-30 A.M.	...	Annual General Meeting of I. M. A.
11-30 A.M.	TO 1-30 P.M.	...	Scientific Section.
1-30 P.M.	TO 3 P.M.	...	Interval for Lunch.
3 P.M.	TO 6-30 P.M.	...	Conference Session including interval for tea.
6-30 P.M.	TO 8 P.M.	...	Interval for visit to the Exhibition.
8 P.M.	TO 9 P.M.	...	Interval for Dinner.